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PROGNOSIS AND THERAPEUTIC INDICATIONS IN CHRONIC DISEASES OF THE HEART.

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For the purposes of discussion, the prognostic factors in diseases of the heart may be conveniently divided into three groups:

1. The condition of the cardiac valves.
2. The condition of the capillary and venous circulation.
3. The condition of the muscle of the heart and of the muscular coat of the arteries—especially of the arterioles.

Of the abnormalities of the mitral valve the obstructive lesion is more serious than that of insufficiency, provided the myocardium is in fair condition; a double mitral lesion is more serious than either single one. Obstruction at this orifice is serious in two ways; if it is due to vegetations on the free edges of the valves or on the margin of the orifice at place of attachment of the valves, these vegetations may be swept off by the blood current and form infarct of the brain with all its serious consequences; if the obstruction is due to stenosis of the orifice from fibroid contraction it throws great strain upon the left auricle, dilating it and causing serious obstruction to the pulmonary circulation and backward pressure through the right heart, causing general venous engorgement of the viscera.

In all mitral diseases careful study of the pulmonary circulation and the condition of the right heart is of utmost importance. Before evidences of pulmonary engorgement show themselves an accentuation of the second heart sound over the pulmonary valve, as compared to that over the aortic, gives the first signal that the left auricular wall is yielding to the strain put upon it and the auricle is not emptying itself as it should. Next in train come evidences of pulmonary congestion and pulmonary edema; then the right heart shows the strain that has been put upon it, first by incomplete emptying of the ventricle into the lungs, thus producing an inability of the right auricle to empty itself, and bringing about a venous engorgement of the various organs of the body. Careful study of the right side of the heart during this process generally reveals an increase of its size. In such conditions there is heard in the tricuspid region a soft systolic murmur; this sometimes occurs early, more often later in the disease, and is always of very serious prognostic import.

Of the lesions of the aortic valve, obstruction is generally less serious than insufficiency. Vegetative growths, causing the obstruction, are less often observed here than at the mitral orifice, but when present are just as dangerous in their possibilities; on the other hand the left ventricle normally has good hard work to do to throw its contents into the arterial system, where there is normally more or less resistance, and on that account its walls are thick and strong; a slight obstruction of the aortic orifice means a little greater effort, a little more muscular development, a compensatory hypertrophy and unless the obstruction increases that is all. Nevertheless, no patient with aortic disease, even though only slight obstruction, should be allowed to do anything to weaken or strain his left ventricular wall, especially as aortic valve disease is so frequently associated with arterial disease.

In aortic insufficiency we have the most serious form of valvular disease; it is not as we might almost say of aortic obstruction, an exaggeration of a normal state of affairs; on the contrary it is absolutely abnormal. As soon as the left ventricle has emptied itself and diastole begins, blood rushes back into the ventricle through the leak in the valve, and also rushes into it in its normal course through the mitral orifice; thus the ventricle becomes distended and dilatation occurs earlier than in any other form of valvular disease. Uncompensated dilatation is the most serious cardiac condition with which we have to cope.

Thus we see that valvular lesions are serious in proportion to the extent to which their existence brings about degenerative changes in the cardiac muscle. Let us turn our attention to the second group that I mentioned as worthy of study from a prognostic standpoint, the condition of the capillary and venous circulation. In health the blood circulates, within certain limits, at about the same rate and with about the same force, producing about the same degree of tension in the blood vessels. Now if the central source of the power that is the chief factor in keeping up the circulation is structurally weakened it shows that weakness in the peripheral circulation. All valvular diseases of the left side of the heart lead eventually to the same state of affairs, namely, a diminution in the amount of blood in the pulmonary circuit, congestion of the lungs, edema of the lungs, over-distension of right heart, venous engorgement, capillary distension, edema of various organs and effusion into the serous cavities. Sometimes the right heart yields, lets the tricuspid valve slip and relieves the impending edema of the lungs by causing overdistension of the systemic veins. The general edema becomes marked and the edema of the lungs comes as the terminator of life. We can perceive indications of failing circulation by study of the capillary circulation as revealed by the edema of the skin and subcutaneous connective tissue; by the diminution in

quantity of the urine and the occurrence in it of albumin, blood, casts, etc., indicative of congestion of the kidneys and, in cases of long standing, of cyanotic kidney; by the condition of the liver as revealed by physical examination of that organ; a large liver due to congestion shows that the left heart is weak and sometimes that the right heart is beginning to fail. If ever a pulsating liver is found it is generally indicative of tricuspid regurgitation and is of serious import. The occurrence of ascites in heart disease is associated with occurrence of general edema and is only another indication of the failing circulation, but is usually a comparatively late one unless there is associated disease of the liver or peritoneum; ascites occurring in the course of a case of heart disease under these circumstances (*i. e.*, absence of disease of the liver or peritoneum) is a sign of bad prognostic import.

Cyanosis, dyspnea, orthopnea and the physical signs of edema of the lungs, reveal the failure of capillary circulatian in the lungs and are of very serious prognostic import; if in addition to these we also have signs that the pleural cavities are also filling up, the prognosis becomes so much the worse. When we also get the symptoms of edema of the brain or of effusion into the ventricles or between the meninges the prognosis is still worse.

All these various conditions, which I have briefly mentioned, are indicative of a failing circulation, and that means lack of muscular power in the walls of the heart and of the arteries. Even in the most serious form of valvular disease of the heart I do not give an absolutely hopeless prognosis until I have tried certain measures calculated to improve the musculature of the heart and of the arteries.

How are we to estimate the strength of the heart muscle? By the force and frequency of the heart's action, by the relative length and strength of the first and second sounds, by their relation as to intensity and duration of the pulmonary to the aortic second sound, by the size of heart as shown by percussion, by the position and character of the apex beat, by the condition of the peripheral capillary circulation and by the condition of the pulmonary circulation.

It seems plain to me that in a given case of disease of the heart the prognosis depends upon the condition of the muscles of the heart and of the arteries, and whether or not they are capable of being so improved as to compensate for whatever may have led to the present condition of failing circulation. If this be true, it is evident that the therapeutic indication is to institute such measures as will tend to improve the muscle strength of the heart and arteries and restore the normal circulation and prevent accumulation in the veins.

I think I can not do better than cite a case illustrative of almost every point that I have made.

March 5, 1897, I was called to see G. M., male, aged 48, American. Family history, good; personal history, rheumatism and alcohol; has had heart trouble for several years. Present condition: Temperature 97 degrees, pulse 110, respiration 30, cyanotic, anasarca, some ascites, marked dyspnea upon exertion, cough very irritating, no sputum.

Examination of urine: Amount 625 c.c., highly colored, strongly acid, sp. gr. 1029, urea 15.6 gm., trace of albumin, no sugar, 1 hyalin cast and 1 cylindroid in three slides.

Physical examination of chest showed some edema at bases of both lungs, especially of the left; a hypertrophied and dilated heart, the apex beat of which was diffused to a marked degree, being felt as a feeble wave over an area bounded by the left mid-axillary line, the upper border of the eighth rib, a line a quarter of an inch to the right of the anterior axillary line and the lower border of the seventh rib; the area of cardiac dulness was marked on the right by a line extending from a point at the upper border of the third rib a half inch to the right of the right edge of the sternum down to a point on the fifth rib, three-fourths of an inch to the right of the right edge of the sternum; here the cardiac dulness was merged into liver dulness. On account of the increase in size of the left lobe of the liver, it was impossible to mark out accurately the lower border of the right heart, but that of the left was on a level with the top of the eighth rib; the left edge of the heart was marked in the mid-axillary line at the bottom of the seventh rib in the anterior axillary line at the top of the sixth rib, gradually approaching the median line, until at the top of the third rib it was midway between the para-sternal and nipple lines. Palpation revealed an irregularly pulsating heart, feeble and wavy in its impulse, with a distinct diastolic thrill to be felt in the fourth and fifth left intercostal spaces between the sternal and nipple lines. Auscultation revealed that the sounds of the heart were not to be heard at all, but were entirely replaced by murmurs; the murmurs at the appex were of very slight intensity and grew distinctly louder as the stethoscope passed to the right and upward; in the mid-sternal region, at the level of the third rib, the two murmurs were very loud, the diastolic especially so. Very careful study of this heart enables me to say without going into further details of the physical examination, that there was insufficiency of the mitral valve, obstruction and insufficiency of the aortic valve and insufficiency of the tricuspid valve. The liver was tremendously enlarged, the area of dulness extending from the top of the fifth rib to a point two and one-half inches below the free border of the ribs; the left lobe extending over as far as the nipple line on the left side, was merged in cardiac dulness above, and extended downward in the epigastric region midway between the end of the ensiform cartilage and the umbilicus.

The physical condition of the heart was one of unquestionably organic lesion of the aortic valve, causing some obstruction and permitting tremendous regurgitation; of insufficiency of the mitral valve possibly due to disease of the valve, possibly due to the great dilatation of the left side of the heart; of insufficiency of the tricuspid probably due to the over-distension and dilatation of the cavities of both sides of the heart, especially the left, and to great thinning of the myocardium of the left ventricle.

I will briefly relate the treatment of the case and then give my reasons for the treatment.

Rest in bed, catharsis, restricted diet, diuresis, diaphoresis, massage, passive exercise and finally some active movements with resistance. In this case the Schott baths were tried without benefit.

Under the treatment outlined above the case has improved markedly; the anasarca and ascites and edema of the lungs have disappeared, with the slight exception of a very small amount of fluid in the abdomen and very slight remaining edema of the very base of the left lung posteriorly. The heart has diminished

materially in size, the apex being now in the sixth intercostal space a little to the right of the anterior axillary line, the borders of the heart having contracted proportionately. There is now some muscular quality to the first sound of the heart, the tricuspid murmur has disappeared and the heart beats regularly about eighty to eighty-six per minute. The liver still remains large but is smaller than it was.

The methods of the treatment were as follows: The rest in bed was absolute for the first six weeks, except when he was lifted in and out of bed for the purpose of the bath, while we were trying the Schott baths; the catharsis was produced by calomel followed by epsom salt, and bowels since kept free by saline cathartics, with an occasional dose of calomel; the diet was limited to milk, koumyss and malted milk for a month, and has since been gradually increased; the diuresis has been produced by the use of diuretin; some difficulty was encountered at first in producing diaphoresis; hot air failed, steam failed, hot pack failed but when we gave a steam bath preceded by a hypodermic injection of pilocarpin hydrochlorate 0.0035 gm. the diaphoresis was profuse.

The object sought and obtained by these procedures was to give the heart as much rest as an organ that works all the time can have. However, rest alone will not restore a weakened muscle to a normal condition; proper food and proper exercise are necessary to complete the cure. Where the muscle of the heart alone is implicated we may hope by long and careful treatment to restore it to a normal condition by exercises carefully graduated according to results. Some cases progress much faster than others. However, in a case where there is permanent valvular leakage, we must recognize the fact that that leak will always remain, and we must bend our energies to devising means for improving the circulation not merely by improving the strength of the heart muscle at one point and removing the fluid from the surrounding tissue and from the veins at another point, but by improving the musculature of the arterial system in general and of the arterioles in particular. Herein comes the benefit of carefully and scientifically administered massage. The muscles of the arteries and arterioles are so improved in tone and strength that they take up with renewed vigor their rythmic contraction and relaxation and give to the blood current a new impetus all along the line.

It seems to me that herein lies the value of salt baths, carbonic acid gas baths and, when it is of value, of the undirected simple rubbing of the skin, in that the rythmic contraction and relaxation of the arterioles is stimulated. Results are much more pronounced when the massage is administered with this definite object in view. By the massage we may also directly affect the movement of the blood in the veins.

To briefly sum up, we may state that in a given case of disease of the heart the prognosis depends chiefly on the condition of the heart muscle and of the walls of the arteries, chiefly of the arterioles; that the chief therapeutic indications are rest, removal of peripheral obstruction to the circulation and then the restoration and development by baths, massage and exercise of the muscular tissue in the walls of the heart and the arteries and arterioles, and the stimulation by these same means of the rythmical contraction and relaxation of these muscle fibers.

THE USE OF DIGITALIN, WITH REFERENCE TO DOSE.

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Early in my practice, circumstances found me active in that class of diseases which center about the circulatory system, and as a consequence, the much debated therapeusis of that remedial agent, *digitalis*, about which has incessantly waged a warfare of theory and discussion, engaged especial attention. Results were achieved which seemed to substantiate the claims of both advocates and antagonists, and presented a problem manifestly complex, and far from having been elucidated. On the one hand, cases representing a definite clinical type were markedly benefited, while on the other, apparently identical conditions were incapable of being favorably influenced, because of the occurrence of unpleasant symptoms which prevented the administration of the remedy in proper doses or in smaller quantities, sufficiently frequently to reëstablish the lost circulatory equilibrium which was so urgently demanded, and what seemed to be facts confirmatory of each of the contending therapeutists, were thus confronted. Recognizing, in digitalis, a remedy possessing active principles of diverse nature, and realizing that in this respect it was not an exception to the vegetal kingdom in general, in which commonly one element of an organism possesses component parts varying greatly in the percentage of these, the opinion prevailed, that in this fact reposed the underlying determining causes of such manifestly contradictory therapeusis.

Observation clinically proved great variability in the effects of the crude drug itself, as well as the official preparations; some would control circulatory function without disturbing the digestive tract, while others developed the latter distress to such a degree as to compel the exhibition of smaller and consequently inadequate doses, the abandonment of the drug entirely, or the contemporaneous use of one or more of the group of cardiac stimulants as auxiliary, either of these being followed by indifferent results and failing to solve the mooted question. This led to the abandonment of the crude drug and its official preparations, and the employment of its alkaloidal derivates or active principles. Concerning these as ordinarily procured from the shops, I found the same objection obtaining, viz., complexity of composition, *as manifested by variability of effect.*

Digitalin was recognized as a name applied to a glucosid, an amorphous powder and crystalline principles. Finally, the derivatives, digitin, digitalin, French and digitalin, German, pure, of Merck were studied, and their therapeutic powers which have stood the close scrutiny and clinical tests of years of use, will be submitted to your attention without further consuming time with the details leading to their recognition. The conclusions submitted are marked by so wide a departure from the generally accepted teachings regarding the value and use of this medicament, that it is felt that your consideration will not have been engaged fruitlessly. The special derivative employed, which forms the basis of this contribution, is digitalin (German, *pure*, of Merck). This, experience proves to be a simple, *i. e.*, individual alkaloid which is not contaminated by other active principles; therefore its

physiologic effects, other things being equal, are characterized by uniformity and definiteness.

It occurs as an amorphous powder, freely soluble in water and quite readily in alcohol, while in ether it is almost insoluble. These properties serve to distinguish it from another derivative known as digitalin French, Merck, also an amorphous powder which, in addition to its power to greatly stimulate the pneumogastric inhibitory function and augment the force of the cardiac contraction, possesses other features beyond the scope of this paper. However, it may be well to state that this latter principle is very sparingly soluble in water, a feature markedly in contrast with the remedy under consideration, freely in chloroform and alcohol and, like the German, slightly so in ether. The dose of the French is much less, *i.e.*, about one twenty-fifth.

With these brief preliminary remarks, your attention is invited to the consideration of dosage. Originally departing from the *utterly inadequate* but generally prevalent conventional one-hundredth and one-sixtieth grain doses, because practically no effects were secured, larger quantities were gradually and carefully exhibited and the effects closely observed. It was found ultimately, that one-tenth of a grain for the minimum adult dose and one-half grain as a maximum, were always, other things proportional, followed by definite and positive results. The administration of the drug, more or less constantly, for months and even years, in doses adapted, within these limitations, to the needs of the particular patient under treatment, is the basis upon which the statement is made.

One feature rendering this derivative especially valuable is the absence of a proneness to produce irritation of the digestive tract. The importance of this, in instances of advanced cardiac diseases requiring the larger doses, is self-evident. As to cumulative action, in no instance has so much as an indication presented itself, and after the long and liberal use under these conditions, it is proper and safe to assert, that that much debated property of digitalis is *not* possessed by this alkaloid.

Occasionally, where the larger doses, one-third and one-half grain, are essential, some gastric disturbances will occur, but the exhibition of pepto-hydrochloric acid, combined with a simple bitter and bismuth, overcomes the objection and permits the continuation of the remedy.

The scope and usefulness of this medicament is greater by far than appears at first glance. In all lesions of the heart, with the single exception of mitral regurgitation complicated with dilatation of the auricle, this drug is a *sine qua non.* The non-interference with the stomach, and its certain action upon the cardiac system and vaso-motor area, in the doses recommended, bring it into prominence when its achievements are contrasted with those of the usually employed official preparations. Its superiority can be better demonstrated by citing two cases which, beyond question, served as severe tests.

An adult male, 57 years old, was apparently in the last stages of eccentric cardiac hypertrophy, the ultimate result of a mitral regurgitant lesion of rheumatic origin. When first seen, the anasarca was so intense that the cutaneous structure of the lower limbs had ruptured in several places, and the oozing of serum was constant and troublesome. The scrotum and peritoneal cavity were much distended by the effusion, and the latter intensified the distressing dyspnea by mechanically preventing complete diaphragmatic action. Cough and profuse sero-mucoid expectoration were severe, while the inability to assume a recumbent position, and the loss of sleep and rest, were factors contributing to rapidly approaching death. He was under the care of excellent and skilled attendants, and *secundum artem* was treated with the conventional doses of the tincture of digitalis, the leaves, infusion and extract, in the vain endeavor to secure relief, but with the results just described. Four consecutive one-half grain doses of digitalin (German, Merck) were administered, each after an interval of two hours, with recognizable relief. Smaller doses, one-fourth grain, were employed at the same intervals for the next day, with results as surprising as unexpected. After some weeks, the sufferer was enabled to be about, and ultimately served as a night watchman for almost five years. During this period the remedy was taken almost continuously in from one-sixth to one-fourth grain quantities, three or four times daily. The periods during which the drug was stopped were never longer than two months, as by the end of that time, its necessity was indicated.

The other remarkable case is that of a lad afflicted with a mitral and aortic stenotic lesion. He is in his fifteenth year. Two years ago, when first seen, his distress was such that he practically lived in a chair. Edema to the middle of the thighs, cough, cyanosis, most distressing paroxysmal dyspnea in addition to the habitual, with emaciation and fast increasing asthenia, were the chief symptoms. Enormous eccentric hypertrophy had developed. The cardiac action was tumultuous, arhythmic and feeble; the sounds indistinguishable. The usual official preparations of digitalis had been tried, one after another, and in the conventional doses. He was rapidly brought under the physiologic effects of digitalin (German) and promptly relieved from the agonizing distress. After some weeks of daily use of one-fourth grain doses he could slowly, but with comfort, be about. The dosage was carefully suited to his improvement and uninterruptedly employed until the present. He is taking little less than one-fourth grain with each meal serially, *i. e.*, for two consecutive days, then omitting one day, then resuming for two, and so on. What has been the result? On Saturday he rode his bicycle from the suburban town of Roxborough to the Washington Monument recently unveiled at the Green Street entrance to Fairmount Park, and back again.

Another class of cases in which really wonderful results are to be achieved, is that of senility. Here, where the whole venous system is so commonly the seat of passive hyperemia as indicated by prominently distended and tortuous veins such as the temporal, a group of symptoms impairing comfort and usefulness, usually presents in the form of shortness of breath upon comparatively trivial exertion, an annoying and somewhat paroxysmal cough, which subsides for a few hours after the expectoration of a small pellet of viscid mucous; inability to remember the usual details of daily duties (forgetfulness), a tendency to insomnia or at least interrupted sleep and vitality, constitutes a type especially amenable to this remedy. The cardiac phenomena accompanying this condition need not be related as they are so well known. If one-third to one-sixth grain doses are given in these cases, it is the rule to see the difficulties mentioned disappear, and a degree of normality reinstated amounting practically to health.

In more advanced senility, characterized by retrograde changes in the venules and associated degenerations, and in which the *arcus senilis* is established, where the premonitory phenomena of apoplexy occur and are indicated by such marked symptoms as confusion of the intellect, incomplete aphasia with facial and other partial but transient palsies, the drug is, *contrary to usual belief*, indicated. This position is assumed after years of careful observation, with results that can not be disputed. The symptoms mentioned are due almost entirely to degenerative changes of the walls of the blood vessels. The vasomotor constrictors have failed in their function and that condition so essential to normality—*circulatory equilibrium*—is lost. The peculiarity of the venous system in having the capacity for containing the entire volume of blood in the body is here well shown, and the tension and pressure, always present in this condition, ruptures the altered radicals, as well as interferes with the phenomena of nutrition. The indications for treatment are plain, both from the mechanical and vital standpoint; restoration of the weakened heart, as far as possible, and especially of the vasomotor tone. This, this remedy accomplishes, and in so doing, the circulatory equilibrium is established and the distending forces upon the friable venules proportionately removed. Again, nutrition is rendered possible and life prolonged under the influences of the drug. Today there are living individuals who have enjoyed immunity for from one to three years from symptoms which had long ago threatened destruction.

Another type of senility is constituted by albuminurics, who furnish examples of cyanotic kidney and who, with the usual concomitants of age, are additionally exhausted by the loss of albumin. This form of albuminuria greatly improves under the proper use of the remedy, and gain of flesh, strength and comfort is assured and pronounced. A typical instance is that of a gentleman, 67 years old, who, during the early summer of 1895, suffered from an advanced state of this condition. The surcharged venous system was marked and the loss of albumin such as to engender great weakness. Disability from this latter was almost total and he was invalided. He has been, and is taking, thrice daily one-quarter grain doses, and notwithstanding the occurrence eleven months ago of sarcoma of the tonsil, which is treated by fragmental removal as occasion demands, he is so far bettered as to be able to comfortably engage in the lighter duties of every-day life. Fatty or primary degeneration of the cerebral cortex, if treated in the incipient stages, seems to be checked for considerable lengths of time.

The muscular weaknesses and vasomotor phenomena of those who recover almost entirely from hemiplegia except in these particulars and whose cardiac tone remains impaired, are much benefited.

Its use in overcoming the vasomotor element of shock and in proper cases of disease requiring capital surgical procedures, in which by reason of a poor circulatory system an anesthetic is dangerous, has been successfully tried in a limited number of cases, but sufficiently to prove its value. The circulatory crisis of acute disease, such for example as is encountered in acute lobar pneumonia, can be overcome, and the author has twice within the last few months so done by administering 2 grains of this alkaloid within two hours. Sufficient has been adduced to permit of the following conclusions:

1, Digitalin (German, pure, Merck) is a derivative of digitalis, not contaminated by other active principles; 2, it possesses a uniform and unvarying strength; 3, it is relatively free from that property which produces gastric irritation; 4, is a powerful stimulant to the whole cardiac apparatus; 5, is a reliable and pronounced stimulant of the vasomotor system; 6, it does not develop cumulative action; 7, its adult dose ranges from the one-tenth grain as a minimum to one-half grain for a maximum.

TRUE (IDIOPATHIC) ANGINA PECTORIS. ITS ETIOLOGY, PATHOLOGY AND THERAPEUTICS.

Read by title in the Section on Practice of Medicine at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

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Case 1.—Mr. E., a merchant from early manhood, habits excellent, possessed of a fine constitution, never seriously sick, 60 years of age, consulted me in reference to a severe paroxysmal itching in his arms, vertigo, and torpid liver; these discomforts yielded to a simple line of treatment addressed to his liver, viz., frugality both in reference to the quantity and quality of his food, and much time in the open air. A few months afterward I was called to see him, in the early hours of the morning, on account of a severe and sudden paroxysm of bronchial and cardiac asthma. I found him almost cyanotic, with the most characteristic symptoms of asthma, and a scarcely perceptible and irregular pulse. The symptoms yielded readily after a hypodermic of morphia one-third gr. and atropia one hundred and twentieth gr. This was his first asthmatic paroxysm and there was no history of it in his family; he had only slight returns of it, but often from slight causes would have temporary palpitation of the heart, with profound disturbance of rhythm, but no evidence of organic disease. He also had great distress in the precordial region, agonizing pains over the left chest and down the arm. These paroxysms were traced to indigestion, worry, walking rapidly up hill, close confinement to office work, etc. I advised him to take a trip to California, be much in the open air, be prudent and frugal in his food, and give special attention to his bowels and the state of his liver. I furnished him with a written description of his condition, my diagnosis of the pathology involved and therapeutic indications for its treatment, so that in the event of having to call in medical aid, the physician could come to a quick knowledge of his needs. He first went to New York City and I advised him to call upon Dr. Austin Flint while there, show him my paper and request him to make a critical examination of his condition, especially of his heart, to see if there was any organic disease that I had failed to discover. A very thorough examination was afforded and Dr. Flint also had an opportunity to see my patient in one of his bad paroxysms; he endorsed the opinion expressed in my paper. Mr. E. was soon sufficiently relieved to start on his trip, was absent three months without any return of the paroxysm, and when he returned to Nashville had apparently recovered. He soon resumed his mercantile habits—close attention to the details of office business in an over-heated room, but little outdoor exercise, liberal indulgence in rich viands of the table, with recurrence of indigestion, paroxysms of palpitation and pectoral distress. I visited him one morning and found him cheerful and comfortable; he said that when seized with one of his spells the distress was so great he felt that one moment more would cause his death. This caused me such anxiety that I made an unexpected visit at 9 P. M.; he answered the door in person, expressed surprise at seeing me and said he "had not felt so well for several months." On my leaving he at once retired; his son occupied a bed in the same room and during the night was aroused by his father who remarked that he had gone into the library to see what time it was and found he had been sleeping two hours and was feeling so well he would not need any of the doctor's composing remedies. In about fifteen minutes his son thought he heard him move and raised up in bed to see, but as his father seemed to be asleep he gave himself no further concern. Early next morning the family servant came in, thought the old gentleman was very quiet, and found he was not only dead but rigor mortis was fully established. It was my opinion that

he died when his son heard him move fifteen minutes after twelve o'clock, and that his death was instantaneous, for the covers of the bed were not disturbed.

Case 2.—Chancellor S., a man of fine constitution, but delicate from studious habits, little exercise in the open air and torpid liver, was about 65 years of age; the pathology and symptoms of his sickness gave a clinical history parallel to that of Mr. E.; he died almost as suddenly. He had passed a quiet night, waked up at 4 A. M., and was dead in less than fifteen minutes, of a paroxysm of angina pectoris. He was not the subject of any organic disease of the heart or blood vessels, but in my opinion was poisoned with the product of maldisintegration of the worn-out albumins of his own body —auto-intoxication.

Case 3.—Judge H., 55 years of age, had never been seriously sick, inherited a good constitution, was called upon to perform heavy and responsible duty under very discouraging circumstances; the needs in reference to his own health were neglected, his liver was torpid, bowels constipated, complexion sallow and mind depressed; after exposing himself one evening to inclement weather he was seized with a severe paroxysm of asthma—of bronchial tubes, diaphragm and heart—with intense pain in the left chest, shoulder and arm. His condition was so critical that I administered, hypodermically, morphia one-third gr. and atropia one one-hundred and twentieth gr.; this gave quick relief and he was soon asleep. There was no asthma afterward, but after three weeks he had seizures of the heart, with all the symptoms of angina pectoris, and died very suddenly in one of them. There was no organic disease of the heart or arteries.

Case 4.—Mr. F., 50 years of age, is the subject of many paroxysms of angina pectoris; he has a delicate constitution, a sensitive nervous temperament, is intense in application to business and sleeps badly. His seizures come suddenly with intense precordial and substernal pains reaching to the left shoulder and to the elbow, and with a cord-like binding sensation around the chest, labored breathing, dry tongue and fauces, cold extremities, pale face, distressed expression, pulse scarcely to be detected, a sense of impending death, totally helpless, accumulation of gas in the stomach and intestines. He can not endure to be moved, and any imprudence in food, emotional worry, or other strain upon the nervous system will provoke a paroxysm. There is no organic disease in the heart or blood vessels.

Case 5.—Mr. G. has for many years been the subject of angina pectoris. The seizures are sudden and he falls wherever he may be; can not be moved, is cold, pale, visage haggard, pulse irregular, rapid and scarcely perceptible, great precordial distress extending to the left shoulder and elbow. The relief comes as suddenly as the seizure; sometimes the attack is short, at other times lasts three or four hours, or longer; large quantities of gas in the stomach and intestines are always developed. He is torpid in his liver, while constipation and indigestion accompany a paroxysm. The exciting cause is imprudent indulgence in food.

The above cases furnish material for making the distinction between true and false angina pectoris; all systematic writers make this classification. Trousseau in his "Clinical Medicine," calls the true angina pectoris "idiopathic," the false "organic." We eliminate all organic disease of the heart and arteries from the discussion—fatty infiltration, fatty degeneration, stenosis of the gateways of the heart, valvular disease, hypertrophy and atrophy of the walls of the heart, dilatation or contraction of its cavities, atheromatous conditions of the heart or aorta, etc. These diseases may complicate true (idiopathic) angina pectoris and any further mention I make of them will be only as complications.

I claim that true (idiopathic) angina pectoris is a neurosis and may express itself in many forms—epilepsy of the heart, tetanus of the heart, asthma of the heart, chorea of the heart, syncope of the heart. The etiologic factor makes its impress upon the nerve centers that control the heart, arteries, capillaries and veins. The behavior of the muscles concerned in the circulation is determined by the exciting and immediate cause operating on the nerves and the nerve centers.

The etiology may be reflex from the alimentary canal, profound emotion either of pleasure or distress even from a dream; the most prolific cause is from auto-intoxication. We have in the manifold pathology included under the term uremia, a generic term given to the product of mal-disintegration of albuminoids—gout and rheumatism claim this form of paternity. When the kidney is afflicted with Bright's disease, and fails to excrete or there is a failure of any other emunctory in its excretory duty, the blood is loaded with these impurities; they act as irritants to the nerve centers and develop many forms and degrees of ataxia—the *coma vigil* of fevers, *subsultus tendinum* and the different convulsions; many varieties of ataxia are expressed in the heart, arteries, capillaries and veins when the vaso-motor nervous system is irritated with these impurities. Ramborg says the abuse of tea, coffee, tobacco, etc., or reflex action from the stomach or intestine, uterine and ovarian disease, or great and continued strain of the mind or emotions, are at times the cause of angina pectoris. The great John Hunter was the subject and finally the victim of this disease. He was in the habit of saying that his life was suspended upon any emotional whim that might happen to him. Sedentary life in close confinement and overheated air, and too liberal indulgence in rich food are the things that predispose to, and are often the exciting cause of angina pectoris; sometimes heredity is a factor.

We proceed now to analyze this neurotic disease: There are three essential factors pertaining to the nervous system concerned in the rhythmic muscular contraction of the heart—sympathetic, inhibitory and sensory (muscular-sensation); each of these is represented in maintaining physiologic equilibrium, not only of the heart but also of the arteries, capillaries and veins; it is through this nervous mechanism (nerve centers, nerves, ganglion and subsidiary nerve cells), that the katabolic force is dispensed and applied to the muscular tissue. According to the stimulus applied to the sensory factor, we will have a regular and normal rhythm, or some form of ataxia (a rapid or slow, a regular or irregular, high tension or low tension pulse), indeed all the modifications of the circulation are dependent upon and due to these nerve centers. In any case, when the sympathetic nerve centers prevail and cause the death of the patient, the heart is contracted, is empty; its muscular tissue is in a state of tonic spasm (systole), the inhibitory centers are practically paralyzed (diastole), and from its similitude we may call it a cramp colic of the heart, the arteries or the capillaries, for it is irregular peristalsis and may lead to a tonic or clonic spasm and closure of their lumen; on the other hand, if the sympathetic nerve centers from whatever cause are inadequate to balance the katabolism of the inhibitory nerve centers, the patient dies in diastole, with the heart cavities full of blood.

This want of physiologic harmony is often caused by auto-intoxication, a torpid liver and a failure of its disintegrating function in reducing the refuse albumin to urea; this establishes a diathetic condition which may show its presence under any trivial exciting cause, in a paroxysm of prurigo, asthma of the bronchial tubes, diaphragm, heart, etc.; all of these conditions are the offspring of the same parentage. When death is caused by angina pectoris the heart may be in systole, diastole, or *in statu quo*, according to whether the sympathetic or inhibitory nerve cen-

ters are affected, or both are alike impressed with the toxic cause, at the same time and to the same degree.

We give another path by which angina pectoris may be and often is caused; it is known that the heart does not receive its nutrition directly from the blood passing through its cavities (auricles and ventricles), but that there is a special provision made for its nourishment—the coronary arteries, capillaries and veins; and the same system of centers, nerves and ganglia (sympathetic, inhibitory and sensory) determine their action. Any cause that breaks the harmony of these katabolic forces, will interfere with the blood supply for the nourishment of the heart tissue; every grade of ischemia or passive congestion may be present, nutrition be impoverished, potential or stored force fail and molecular and dynamic work be suspended; gradual fibroid stenosis of the walls of the coronary arteries (senility), regurgitation of the blood to the left ventricle (from valvular disease of the aortic opening), preventing the adequate supply of blood to the coronary arteries; spasm of the muscular walls of the coronary arteries may make a complete closure of their lumen, giving syncope of the heart. If the closure is only partial, nutrition fails to the same degree, entailing a corresponding asthenia.

I wish here to demonstrate the nature of the homogenous substance of which the capillaries are made and claim that they have the function of contractility, which is a vital property, while elasticity is a mechanical and physical property. All muscular tissue is composed of sarcous cells and these are built of sarcous molecules, and each molecule is a muscle endowed with the property of contractility. Nutrition is the highest assimilating function and consists not only in storing matter, but also of force (potential). Each molecule of a muscle is thus made vital with tonicity that is made manifest in contractility through metabolic disintegration. In order to realize this vital function it must be brought into relation with the nervous system, which is built up with nerve-cells made of nerve plasm, and this of molecules as its ultimate histologic analysis. We see and study muscular and nerve organs *en masse*, but when we analyze these two tissues in order to realize contractility, such as we have in the walls of the capillaries, the membrane of which it is made must consist of these two tissue molecules, viz., nerve and sarcous molecules. The nerve bioplasm, which forms a part of homogeneous membrane, is endowed with sensory, motor and inhibitory properties, precisely as we have claimed is due the nerve centers, nerves and ganglia which determine the rhythm of the heart and arteries.

If I am correct in this claim, we may have a systemic capillary spasm closing their lumen, which may be partial or general, constituting a *vis a fronte* obstruction and damming the blood back into the arteries and heart. In this way we may have a peripheral or visceral condition that will realize one variety of angina pectoris. This peripheral high tension of arterioles and capillaries will bring the heart and large arteries to a standstill, overfilled with blood, in which case death may be immediate. It produces a pathology in the walls of the capillaries and arterioles that simulates an epileptic seizure of them, or the inhibitory nerve influence may prevail over the sympathetic and then the reverse condition will be present, or the sympathetic (systole) and inhibitory (diastole) may be impressed by the exciting cause at the same time and to the same degree; then we will have their walls in the condition of *in statu quo*—this simulates the cataleptic state.

What I claim is: That true (idiopathic) angina pectoris should be understood to be a generic term, covering many causes and many pathologies, but in every case it is a neurosis, in which the nervous system which determines and regulates harmony in the mechanism for the circulation of the blood, has been violated by some pathogenic cause. When we apply the above facts to the coronary arteries, arterioles and veins, we have another angina pectoris in which syncope is the pathologic factor. Syncope of an organ causes the suspension of the function of the organ; this is well illustrated in that form of aphasia (word blindness) in which the arteries, arterioles and capillaries supplied to the supra-orbital convolution of the brain are seized with a tonic spasm, and when it is relaxed and blood is again supplied to them, their syncope is relieved and their function is reëstablished. The same behavior of nerve forces (sympathetic, inhibitory and *in statu quo*) which I have mentioned in other forms of angina pectoris, pertain to the coronary arteries, capillaries and veins. When the spasm of the coronary blood vessels is relieved, by whatever cause, and the blood again flows through them, the heart resumes its function just as we have seen in paroxysmal aphasia. The fibroid change in the walls of the coronary blood vessels in the senile heart, which is one of the inheritances of age, leads to a progressive diminution of their lumen and to a gradual ischemia, that leads to a formidable complication of idiopathic angina pectoris, but this fibrosis of senility is not strictly an organic disease; as its genesis is physiologic, we will reckon it as making the heart more vulnerable to the causes of idiopathic angina pectoris.

Porter has recorded experimental investigation in closure of coronary arteries of dogs. He found that complete closure was followed by arrest of the heart pulsations; but if one artery or a branch of it was closed, then there was irregular action or cessation of function, corresponding to the region of ischemia—the branches of the coronary arteries are physiologic, if no t anatomic, terminal branches; on removing the obstruction the normal action of the heart was restored.

Résumé.—Angina pectoris, false and true:

1. The false—all forms of organic diseases of heart, arteries, capillaries and veins.

2. The true—idiopathic (functional).

3. The blended type—when the organic is a complication of the idiopathic.

4. The true angina pectoris is a neurosis and may express itself in many forms.

5. The nervous mechanism involved contains three physiologic factors: *a*. Sympathetic centers and nerves —systolic (efferent). *b* Inhibitory centers and nerves (sp. accessor)—diastolic (efferent). *c*. Sensory centers and nerves (vagus)—muscular-sensation (afferent).

6. Each of these physiologic factors is represented in the vaso-motor system of the centers, ganglia and nerves of the heart, arteries, capillaries and veins, and their physiologic equation determines the rhythmic harmony of the circulation in health.

7. From a chronic cause, a diathetic condition which establishes a vulnerability in the nervous system is produced—as in the mal-disintegration of nitrogen compounds and their failure of excretion, or some error in the product of the ductless glands, etc.—which on the action of some exciting cause will determine an explosive paroxysm of systole, or of diastole, or of

both at the same time, locking the sarcous substance *in statu quo;* this may be of the heart, arteries or capillaries, or of all at the same time; and in many cases the diaphragm and bronchial tubes are similarly impressed.

8. Symptoms of sensation: breast pang, dyspnea of the heart, sudden onset of precordial agony, pain extending from the heart to the left chest, shoulder and arm, sometimes to the right chest and shoulder; constriction of chest, an overpowering sense of impending death (all movements are dreaded lest they may precipitate that result), cold skin, deadly pallor, tension of arterial walls so that the pulse is arhythmic, diminished in strength and volume; the paroxysm often lasts a few seconds, minutes or sometimes is protracted; in many cases eructation of gas is present and often a quantity of pale urine is passed.

Treatment.—This is properly divided into three indications: 1. Curative—to treat the predisposing cause (the diathesis). 2. Preventive—to avoid all exciting causes. 3. Emergent—to relieve the immediate paroxysm.

1. Study the conditions that have produced the diathesis—heredity, bad habits and environments, but especially the quality and quantity of the food, and fortify the patient against them.

The most fertile cause of this diathesis is the quantity of fulminating food—that which is rich in nitrogen; therefore, it is best to refrain from the use of a meat diet; fruits are especially indicated, and much outdoor air, change of climate, pleasant companionship, etc.; in cases having any suspicion of a syphilitic element, bichlorid of mercury and iodid of potassium are indicated; these remedies, also Fowler's solution of arsenic are of curative value in many cases of auto-intoxication from errors of metabolism and the products of the ductless glands.

2. The second indication of treatment is to avoid the exciting cause of the paroxysm (indigestion, torpor of the liver, constipation, auto-infection from the intestines), and look especially after the disintegrating function of the liver, in order that its metabolism of nitrogeneous compounds may be reduced to urea—the physiologic diuretic; avoid physical strain, mental strain, emotional strain, and be discrete in personal habits and hygiene; be much in the open air, with invigorating environments and pleasant social contact; repetition of physical, mental or emotional activity begets automatism; therefore, vigilance with reference to these physiologic habits should be practiced, before they have cut grooves of activity into the nervous system.

3. The third indication of treatment is to relieve the patient from a paroxysm. The remedies do not aim to modify structure but to influence the function of the vaso-motor nervous mechanism. The following catalogue is a partial list of the medicines from which the physician selects: morphia, atropia, digitalis, strychnin, strophanthus, methylene-blue, veratrum viride, nitro-glycerin, nitrite of amyl, nitrite of sodium, hyoscin hydrobromate, etc., to be administered hypodermically when the emergency is great or by inhalation when practical.

We have in this list drugs that are prominent in their therapeutic virtues, from three points of view—systolic, diastolic and analgesic. Digitalis is eminently fitted to improve tonicity, regulate the rhythm of the heart, arteries and capillaries; it acts alike on the nerve mechanism, both of systole and diastole, it protracts the time of rest in the events of a rhythm and thus promotes the nutrition of their walls. But it is not safe to give it until the tonic spasm is relaxed, whether it is in the heart, arteries or capillaries; it would be equivalent to give ergot in parturition when the uterus or its cervix or the perineum is in a state of spasm, or to give medicine to promote peristaltic action of the intestine when a section of it was locked in a spasm of cramp colic, or to give strychnin in tetanus. When the condition justifies its use, it is without a rival in improving the rhythm of the heart and blood vessels and in securing relief to the cardio-respiratory distress.

Strophanthus improves the systole and diastole of the heart similar to digitalis, but in less degree; it differs from it in not impressing the arteries, capillaries and veins; therefore, it is indicated when the heart needs a spur to improve the vigor of its action and the lumen of the blood vessels is not offering any resistance.

Strychnin is another heart tonic, but it is so only as it improves the tonicity of the entire nervous system, and causes quick response in converting potential into kinetic dynamics; this is soon exhausted unless assimilative metabolism is sufficient to compensate the over-draught occasioned by the strychnin. These three remedies, strychnin, digitalis and strophanthus are invaluable cardio-vascular tonics with some latitude of difference in their therapeutic value; but when administered with proper discrimination of the patholgy involved, they make more stable the results obtained by the next class of remedies; ethyl nitrite (nitrous ether), morphin and atropia, nitrite of amyl, nitrite of sodium, nitroglycerin, methylene-blue, hyoscin hydrobromate, etc. These fulminant remedies are complex in their molecular construction, unstable chemic equilibrium, and, notably, nitrogen is one of the elements present and the one that determines their wonderful physical and dynamic properties. These substances are remedies of great value, for quick results, in relaxing the high cardiac, arterial and capillary tension, whether it be that of systole, diastole or *in statu quo.* They reach their therapeutic virtue through the sensory pathway of the vagus, its ganglia and its center in the medulla. This constitutes one of the special distinctions of this class of remedies. Whenever there is a tonic or clonic spasm, whether it is in the heart and blood vessels, or the intestine, or any other viscus with muscular walls, relief comes from remedies that are analgesic (sensory–pathway). They are classed as stimulants to vaso-motor mechanism, but they are only so by unlocking the tonic muscular contractility, either systolic or inhibitory, through the sensory mechanism; then the rhythmic function is re-established. Nitroglycerin is possibly the best of the class, while not so prompt as nitrite of amyl, its effect is more enduring. A proper blending of the medicines above discussed, according to their therapeutic virtue, a general nerve tonic (strychnin), a vaso-motor tonic (digitalis) and the analgesic remedies (nitrite of amyl or nitroglycerin, etc.), give us theoretically, all that the most critical analysis of the indications involved and demanded in the treatment of the paroxysmal factor of idiopathic angina pectoris. I have at this time a patient, a woman aged 50 years, who at various times for the past ten years has been the subject of this disease. Her paroxysms realize all the characteristic symptoms, often with severe asthma and ataxia of the diaphragm, which has been relieved with morphia and atropia hypodermically; within the past

month she was seized with one of her paroxysms but one more urgent and critical; I administered hypdermically, a combination dose of strychnin 1-40 gr., ntiroglycerin 1-100 gr., and digitalin 1-100 gr., obtaining relief and very much more satisfactory results than the morphia and atropia had previously given.

ATROPHIC RHINITIS.

CANDIDATE'S THESIS FOR THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

BY JOHN EDWIN RHODES, A.M., M.D.

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Atrophic rhinitis is a chronic inflammation of the lining membrane of the nasal cavities resulting in atrophy of tissues, with occasional corresponding changes in the bony structure, and the formation of crusts. It is frequently accompanied by ozena.

While all authorities are practically agreed as to the final sclerosis of the tissues in atrophic rhinitis, there are differences of opinion among observers as to the exact pathologic process by which such a result has been brought about. Is the atrophic condition essentially such from the beginning or is it preceded by hypertrophy? Manifestly, opinion founded upon clinical observation must be surrounded with difficulties. Patients are usually seen during some stage of the process and are seldom under observation from the inception of the disease; often the disease has extended over many years and a satisfactory history of it during the early stages can not be obtained. Occasionally observers have been able to follow the process from its beginning. Thus Schäffer found cases in which there had been hypertrophy for eight or ten years which was followed by atrophy. It is not uncommon to find in one side of the nares, hypertrophy of the turbinates and in the other atrophy; there frequently is also within one nasal cavity hypertrophy of the middle turbinated with atrophy of the lower, or vice versa—a condition observed also by Capart[1] and others. Again, it has been common, on inquiry, to find that the obstruction of the nasal cavities was the predominant early symptom. In our histories of 142 cases of private patients, I find one in which we observed the process from its inception. The patient was a girl, aged 15. She was only treated at very long intervals, so this could have had no bearing on the result. In this case the hypertrophy was well marked when the case first came under observation. Within two years atrophy had taken place, which subsequently became extreme. More[2] marked the coincidence of atrophic and hypertrophic rhinitis in eighteen out of eighty cases. I have but recently seen a well-marked case in which there was hypertrophy of the inferior turbinated upon one side and atrophy well advanced upon the other. In our list of cases I find several in which similar conditions existed.

J. N. Mackenzie[3] believes that in this form of rhinitis we have the concluding stage of nasal inflammation, and that it is usually the sequel of a hypertrophic condition. In support of his position he traces the pathologic processes from an intumescent condition, resulting in the temporary obstruction of one or both nares. At first there is an engorgement of tissues mainly confined to the erectile spaces, with perhaps a slight cellular infiltration of the submucous tissues and an unchanged epithelium. When permanent swelling of the membrane has taken place the intercellular walls are changed into a dense fibrous structure, encroaching more and more upon the erectile spaces, and a fibrous deposit in the submucous tissues compresses the glandular elements and gradually obliterates them. These conditions also invade the superficial layers, and the blood supply is interfered with, causing destruction of, or changes in the epithelial layer. In the obliteration of the erectile spaces he also observed in two specimens the presence in the spaces of masses of round cells; also in certain cases the formation of parietal thrombi and occasionally bulbous processes projecting from the walls of the cavernous sinuses. Finally the histologic condition seems to be a gradual atrophy of the different layers of the membrane, and as has been shown in the studies of Eugene Fränkel and others, we have presented to us a cirrhotic processs in which the mucous membrane shrinks away by being changed into a fibrous connective tissue.

Browne,[4] while willing to accede to a quite generally antecedent hypertrophy, in which there is an increase of the connective tissue elements, which culminates in fibroid shrinking, is of opinion that there are cases in which the process is atrophic from the beginning. Seiler's views coincide with this statement. Sajous[5] is satisfied that atrophy is an occasional result of hypertrophic rhinitis, and that the pressure of dried secretions on the membrane is an important factor in the production of atrophy. The pressure of dried secretions can not be a constant factor, because in some cases of atrophy the secretions are either fluid or are easily removed. Atrophy has already begun in many cases and proceeded to quite an advanced stage, in which dried secretions have not been a feature. Over much of the membrane, especially at the anterior portion of the external wall of the nares, the crusts in many cases have never formed. It does not seem possible that, frequently at any rate, there could be sufficient pressure to interfere in any marked degree with the vascularity of the tissues. The increase of the crust takes place upon the surface of the membrane, and as it increases it is forced further from the membrane and the extreme, dry, contracting portion is upon the external free surface of the crust, the under part being usually moist and semi-liquid.

Delsaux[6] believes that a simple chronic rhinitis is the precursor of atrophy, and does not admit that hypertrophy always precedes it. Ingals[7] favors the theory that in most cases atrophy is the result of a previous hypertrophy. B. Fränkel[8] also states that in most cases atrophy is the result of a preceding hyperplastic condition. Cohen[9] affirms that in these cases we early find hypertrophy. A similar belief is expressed by M. Mackenzie.[10] Abel[11] believes the *bacillus mucosus capseolatus*, causing a simple catarrhal inflammation, leads to primary hypertrophy and then to atrophy. On the other hand, Bosworth[12] does not admit that hypertrophic rhinitis is in any case the cause of the atrophic, but that the morbid changes are atrophic from the outset. Capart[13] also believes that the disease is atrophic from the beginning and not the result of a preceding hypertrophy.

It was formerly quite generally believed that the syphilitic or strumous diatheses played an important rôle in the etiology of the disease. It is probable that these conditions may increase the susceptibility, and exercise some influence in its production, but the affection, in the majority of cases, develops in an otherwise perfectly healthy individual.

B. Fränkel[14] says that a majority of cases depend on a dyscrasia, but recognizes the fact that there are other cases in which no such condition exercises any influence in developing the disease. Schäffer[15] goes farther than this in stating that ozena is always due to struma or syphilis, hereditary or acquired. Clark[16] has recently made an examination of 100 phthisical patients and 73 of them showed signs of atrophy. Strübing does not consider that predisposition is a factor of much importance, however, as perfectly healthy peoply get the disease. Beverly Robinson[17] affirms that the presence of syphilis, struma or herpetism, are diathethic conditions which are efficient causes in many of the symptoms observed in this form of catarrh. Cohen believes that it is sometimes engrafted upon the strumous diathesis. M. Mackenzie, I believe, expresses the general sentiment of investigators, at present, in saying that the disease is not constitutional in the true sense of the word.

The statement of Abel that the disease is infectious is not corroborated by clinical experience, and animal experiment has proved that the crusts possess no infectious property. Neither is the disease hereditary nor congenital as shown by Zuckerkandl, who examined 252 skulls of children without finding a case of congenital atrophy. It can not be denied that we occasionally find two or more members of the same family who have atrophic rhinitis.

Bacteriology has been invoked to settle the question in regard to the odor of ozena as well as the etiology of the disease. Löwenberg's[18] investigations showed the constant presence in the crusts in ozena of a highly pathogenic "cocco bacillus," large bacilli in short chains, or in masses, appearing as diplococci. Hajek,[19] in his experiments, found immense numbers of bacteria of four or five varieties, in the secretions of ozena. In seven out of ten cases he found the pneumonia bacillus of Friedlander. In seven out of ten cases he cultivated a bacillus which he names the "bacillus fœtidus ozænæ," which he believes causes the odor of the disease. The difficulty of mechanical removal of crusts is an important factor in the production of the odor, as it affords the bacillus ample time to develop, an assertion favored by the statement of Strübing, that fresh ozena secretions to not smell, and the odor is developed only when the secretion dries. The bacteria do not cause the disease, but simply the odor, and no bacteria are found in the membrane itself. Abel[20] examined sixteen cases of pure ozena in Strübing's clinic and decided that the cause of ozena was a well characterized bacillus. Since that time he has examined 100 cases and always found this bacillus. This is the same bacterium that was found by Löwenberg and Hajek. Fränkel believes that the odor is due simply to decomposition of the stagnant secretions. M. Mackenzie accepted Fränkel's earlier theory that it is due to fermentation. Krause attaches great importance to the degeneration of newly formed mucous cells and the production of fatty acids. Schuchard and Valentin affirm that atrophied membrane throws off a secretion which dries rapidly, becomes offensive, and emits the peculiar odor. This seems to be a purely speculative theory, as fetor may exist without atrophy; indeed, it sometimes occurs with hypertrophy. Baurowicz[21] made an examination of fifty cases for bacteria. Fifteen of these were cases of atrophy, of which seven had fetor. In the fifteen cases only, he found the capsule bacillus of Löwenberg and Abel. As these were not found in other cases where suppuration or necrosis had taken place, they can not be considered the result of putrefaction. Belfanti and Della Vedova,[22] from their experiments at the Institute of Serum Therapy, Milan, believe ozena is caused by an attenuated bacillus identical with that of Löffler but with virulence much lessened; this was found not only on the surface of the mucous membrane and in the exudate, but beneath it, and they believe it causes a chemical change in the secretion and a resulting atrophy. Vansant,[23] in a series of 100 cases, examined with special reference to the Klebs-Löffler bacillus, found twenty having chronic atrophic rhinitis. These bacilli and others were found in twenty-six different cases, of which eleven were atrophic. The presence of the bacilli was attributed to infection, a pathologic condition in the nasal chambers providing a suitable soil.

In other cases it is undoubtedly true that neglected or improperly treated catarrhal inflammation is the primary cause for a final atrophy. Certain anatomic and other conditions of the nasal chambers may possibly favor catarrhal inflammation, as, for example, abnormal patency of the anterior naris, and the "upturned nose," mentioned by Browne; deformities of the nasal cavities, congenital or acquired, which interfere with a blast of air sufficient for the removal of secretions; the neglect of children to blow the nose; the quality of the inspired air, or anything which lessens the sensitiveness of the membrane to the presence of foreign substances.

In our records of 142 cases in private practice, 80 were males, 62 females; the youngest was 6 years of age, the oldest 81; 58 were between 25 and 40 years of age, 37 were between 15 and 25, only three were under 10, 15 were between 40 and 50, and 8 were between 60 and 65. Of these cases, 55 complained of fetor, more or less marked. In 47 the sense of smell was impaired, in 20 there was anosmia. In 28 of the cases the hearing was affected.

The preceding history of the catarrhal condition before presenting themselves for treatment showed that they had suffered from seven to twenty-five years in seventy-two of the cases, and less than two years, in twenty-five. Only eight of the cases showed signs of tuberculosis, one of them being laryngo-pulmonary tuberculosis; in two there was a distinct scrofulous history; in five there was a history of syphilitic infection.

Symptoms:—Patients otherwise in excellent health may have atrophic rhinitis, with, perhaps, a history of catarrh extending over a period of months or years. In other cases this prolonged catarrhal condition has affected the general health. The main symptom is, in most cases, the formation of crusts in the nasal cavity, which are removed with difficulty. There is sometimes a history of stopping up of the nose, which is relieved when the crusts have reached a sufficient size to be expelled by vigorous blowing of the nose. Sometimes there is a sensation of dryness or irritation in the nose which the patient may try to relieve by picking or scratching the anterior portion of the septum and perforation may have resulted from the habit. A quite frequent symptom, as shown by our case records, is frontal headache. There is occasionally simply pain across the upper part of the nose. Hoarseness and a hacking cough are common. In many cases the hearing is affected, in some there is marked deafness. The sense of smell is frequently

obtunded or lost, and the sense of taste may be much impaired. Bleeding from the nose and occasional severe epistaxis are not infrequent symptoms. Sometimes there is complaint of dryness of the throat and naso-pharynx, although this condition may often be present and cause the patient little annoyance. Sneezing is not a common symptom. In a large majority of cases, however, the predominant symptom is the excessive discharge, either semi-liquid in character, or, usually, formed into crusts. Involvement of the accessory sinuses occurred only once in our 142 cases.

If ozena be present the odor may be imperceptible to the patient even in the most extreme cases. He usually, however, has either recognized the condition himself or has been informed of it by his friends. The odor is characteristic and once it has been detected can thereafter be readily recognized. In most cases the odor is peceptible only in close proximity to the patient, but I have seen cases in which the stench permeated the atmosphere of the entire room and remained long after the patient had quitted the apartment. The crusts vary in color, being a dirty, yellowish white, or brown, or they may be greenish, or almost black in color. They conform in shape to the portion of the cavity from which they have been detached. The outer surface of the crusts may be of a soft consistency or may present a tough, thick, hardened surface. The under surface of the crust is frequently of a soft muco-purulent character. The crusts on being torn away from the mucous membrane sometimes leave a bleeding surface beneath.

The general appearance of the patient may be changed somewhat by unusual broadening of the nasal bone and the alæ may be dilated. If the patient blow the nose vigorously the lessened resistance to the expulsive blasts of air may be readily detected by the sound and is quite characteristic of a roomy nasal cavity. On examination of the nasal cavities, their roominess is at once apparent. In many cases the lower turbinated bodies are so shrunken that the posterior wall of the naso-pharynx is easily seen. The middle turbinated body is quite normal, in many cases; usually it is atrophied, but it may be hypertrophied. Bresgen,[24] however, thinks that very often atrophy begins in the middle turbinated body and middle meatus, while the lower turbinated may remain normal. Crusts will be seen adhering to the turbinated bodies and the septum, more particularly at the middle and upper part of the cavity. The membrane is usually paler than normal, but on cleansing thoroughly the parts may become hyperemic for a time, probably from irritation of the cleansing process. The mucous membrane of the pharynx is apt to be dry, and covered with thick, tenacious secretion, and in the naso-pharynx there may be found a blackish crust closely adherent to the vault.

Diagnosis.—In the early stage an inspection of the nasal chambers may not reveal any striking change of the mucous membrane of the turbinated bodies, and the naso-pharynx may be quite normal. Sometimes fetor is present in this early stage. When shrinking of the membrane has taken place to any marked degree, the roominess of the nares becomes apparent, and the characteristic crusts are found. Fetor is present in a majority of cases in this stage. When the stench is a leading symptom, especially if it be found to proceed from one naris, a careful search should be made for rhinoliths or foreign bodies, after a thorough cleansing of the passage.

In syphilis of the nose there is often a disgusting odor which might be mistaken for ozena accompanying atrophy. There would usually be a specific history, and a careful examination would probably disclose the presence of dead bone or ulceration in the nasal cavities. In these cases, too, the patient is usually conscious of the odor. The odor is removed by cleansing only temporarily, and it quickly returns. Michel's view that ozena is due to chronic suppuration of the accessory sinuses can not be sustained. The discharge in such cases may be accompanied by fetor, which proceeds from one nasal cavity, and the odor is present at the moment of the discharge from the sinus. This discharge rarely remains in the cavity sufficiently long to form crusts. The patient is deeply conscious of the fetor, inasmuch as the sense of smell is not impaired.

Prognosis.—If by a cure we are to understand a restoration of a fibrous structure to the function of the original turbinated body, we shall be obliged to accept the hoplessness of the conditions. I fully believe, however, that, in many early cases, by a vicarious activity of the unimpaired glands and vascular structures remaining in the membrane, the patient can be so nearly restored to his normal condition that symptoms will have been relieved, a restoration of function brought about to a degree, and treatment can be practically abandoned. In all cases relief can be obtained to a greater or less extent, but, in many, persistent treatment must be adopted, vigorous at first but less energetic later on, and persisted in for many months. When the odor has disappeared and crusts have ceased to form it may still be necessary to use some simple toilet daily, or less frequently, for years. As middle life is passed the odor usually disappears without treatment and all symptoms are alleviated. The sense of smell once lost, in these cases, can not be restored. If the hearing has become affected little can be done to relieve it.

Treatment.—The problem in the treatment of atrophic rhinitis is not only to remove the secretions, thus dissipating the odor temporarily, but also to prevent their reformation and to stimulate to a renewed activity those portions of the mucous membrane whose functions have not been altogether destroyed by the atrophic process. In times past the Thudichum douche has had many advocates, but since Roosa[25] published sixteen cases in which middle ear disease followed its use very many have abandoned it altogether. Hovell[26] condemns it because of the possible middle-ear involvement and the severe, persistent headaches that may be caused by the entrance of the fluid into the frontal sinus. If proper precautions are taken, however, it may sometimes be used with perfect safety. I believe that with the extreme roominess of the nasal cavity in marked atrophy, if a low pressure is used, the head held well forward, the mouth kept open, and an attempt to swallow be refrained from during the douching, the stream will flow into one nostril and out the other freely, and rarely, if ever, finds its way into the eustachian tubes. Simply sniffing water from the open hand through the nasal passages, preferably one at a time, the other being closed by pressure upon the ala of the nose, is better than the douche, because very little pressure is exerted in drawing the liquid to the naso-pharynx. I have usually employed this

method and very rarely have there been complaints of fulness of the ears following the washing. The Bermingham douche, which consists of a cup, with a nasal piece expanded near its opening can be used with comparative safety. The liquid is poured into the nasal passage with the head thrown well back and with the mouth open to prevent the entrance of the fluid into the throat. The head is thrown forward quickly and the liquid finds an easy exit. The whole surface of the nasal passages and the naso-pharynx can be reached in this way. The post-nasal syringe may be used where the crust can not be dislodged from the pharynx and naso-pharynx by the other methods. The coarse spray-producer is strongly recommended by Robinson, who condemns the douche. It may be used with perfect safety. In many cases, however, the patient can not remove the crusts satisfactorily by this method and is obliged to resort to one of the others mentioned. The crusts may be located by inspection and, after softening with spray or otherwise, they can usually be detached readily by means of an applicator wrapped with cotton. Little force should be used in detaching them. It is often advisable to have the patient wash out the nose for several days before attempting to make other applications. The wash should be warm and used by the patient two or three times a day. It is necessary certainly that the nose should be made clean and kept clean; this can best be accomplished by the employment of a wash that will both soften the crusts and disinfect the nasal cavities. The simple alkaline wash, a teaspoonful of salt in a pint of warm water, is a popular household cleansing solution, and quite as effective as some others. A combination may be used as follows:

Sodii chloridi			
Sodii bicarbonatis.	āā	ʒx	40 00
Sodii salicylatis.			
Sodii biboratis, ...	āā	ʒv	20 00

Misce.

A teaspoonful in a pint of tepid water makes an unirritating alkaline solution.

McBride[27] favors douches and recommends as the best aceto-tartrate of aluminium, a 50 per cent. solution, using a small teaspoonful in a pint of water. Dobell's solution makes an excellent spray for cleansing purposes. A large number of medicaments have been suggested by different authorities, combinations containing sodium salts, carbolic acid, potassium permanganate, boric acid, chlorin water, hydrogen peroxid and others. The following formula has given me more satisfaction than any other. I have had it put up in tablets, one of which, dissolved in from one-half to two-thirds of a glass of warm water, makes a solution of proper strength. This not only cleanses the passages but the thymol destroys the odor:

Potassii chloratis.	grs.	iiss	15
Sodii bicarbonatis	grs.	x	60
Sodii chloridi, C. P.	grs.	x	60
Sodii salicylatis	grs.	v	30
Sodii biboratis.	grs.	v	30
Thymol.	grs.	1/8	008
Eucalyptol.	min.	1/4	016

Misce. Make one tablet.

After the nares have been thoroughly cleansed, stimulating or alterative treatment should be instituted, according to the stage of the disease reached, and the susceptibility of the patient. It is here that many different remedies have been used and many methods tried, some with indifferent success, others with very beneficial results. When the nares are clean I am in the habit of having the patient use a powder like the following:

Sodii biboratis	grs.	ij	12
Hydrarg. oxidi flav	grs.	ij-v	12-30
Iodol.	grs.	j	065
Cocain hydrochlor.	grs.	iiss	15
Magnes carb. levis	grs.	ij	12
Sacch. lactis, q. s. ad	grs.	100	6 50

The powder is quite impalpable and as it spreads over the membrane it dissolves readily without forming a pasty mass. About one and one-half grains should be used in each naris, two or three times a a day. The yellow oxid of mercury is one of the best of the stimulating and disinfecting remedies. The iodol is a good disinfectant and the cocain, suggested for persistent use in this disease by Ingals, is highly recommended. The first effect of the cocain, when locally applied to the membrane, is to cause contraction of the blood vessels and an excitation of the mucous glands. If its use is continued for any length of time there is apparently paralysis of the vasomotor nerves, with dilatation of the blood vessels and increased nutrition of the parts. We have frequently observed slight hypertrophy of the nasal mucous membrane which, under the continued or excessive use of cocain, was greatly increased; and in other cases a simple congestion, without hypertrophy, subjected to the persistent action of cocain, which has resulted in a few months in marked hypertrophy. In the atrophic condition, then, where stimulation of the remaining healthy tissue is sought, we have a valuable remedy in cocain. It should be supplied by the physician and used in small quantities only. A prescription which whould enable the patient to obtain it *ad libitum* should never be given. In none of our cases when used in such a formula as given above has it had any decided constitutional effects. We have treated many cases in this way with benefit, and, in two or three, extended treatment has resulted in restoration of the tissues, in appearance at least, to a nearly normal condition.

Among the other remedies that have been suggested in atrophic rhinitis, in various combination are: Berberin muriate, pulverized benzoin, pulverized galanga, pulverized tannic acid, menthol, iodoform, ichthyol, europhen, aristol and thymol. I have recently used in a few cases trikresoliodin, a preparation containing iodin in a free form. It is not escharotic and seems to be a very good antiseptic, stimulant spray. Sprays with a basis of liquid albolene, benzoinol or some other of the oils of a like character are often useful, especially if there be difficulty in removing the crusts, or in cases where their removal leaves a raw or bleeding membrane. There may be combined with it for disinfecting or stimulating purposes, carbolic acid, min. iij to v, to the ounce; menthol, grs. ij to x; oil of cloves, min. iij to x; oil of cinnamon, min. v to x; thymol, grs. 1/3 to iij; ichthyol, grs. v to x, or other medicaments. The weaker solutions should always be used first and the strength should never be enough to cause much discomfort. It is well that these patients be treated by the physician two or three times a week for a time, in order that there may be certainty as to cleanliness, and as to the effect of the remedies prescribed. Thereafter less frequent consultations are advisable, and when once a proper line of treatment has been established the patient need be seen at rare intervals only.

Gottstein's tampons may be placed in contact with the mucous membrane and allowed to remain for a time daily. These are said to act as an irritant and stimulant to the membrane, and to destroy the odor. Franz Bruck[28] considers it the e[illegible]t method of treating ozena, but says that with [illegible]pons impermeable to moisture the effect is not so good. Hydrophil cotton is preferable, because it excites secretion and absorbs it. Inasmuch as only the dry secretions smell, the tampon must be renewed before the secretions again become dry, every two or three hours being sufficient in light cases. In the severer, he suggests that hydrophil gauze be introduced by a bougie, over the end of which the strip is folded, but it should not be large enough to prevent nasal respiration with the mouth closed. When this becomes filled with secretion it can be blown out and replaced by the patient. The effect is that an increased blood supply warms the air, the gauze catches the irritating particles and the inspired air is more freely moistened. I have recently made use of strips of surgeon's lint, introduced with flat probe, in a similar manner, and believe patients have derived much comfort from the treatment. Strübing[29] considers the treatment of great value, but he medicates the tampons with creolin, aristol, sozoiodol, etc., and recommends steam for cleansing purposes. Sänger[30] advises a curious method of treatment by means of a U shaped clock spring, with zinc plates attached, trimmed to fit the nares, leaving a space for air. His theory is that this causes rarefaction of air in the nasal passages in inspiration, dilatation of blood vessels, increased secretion and softening of crusts. Fränkel was the first to advocate the use of the galvano-cautery, at white heat, over the site of the crust formation. Sajous[31] favors the practice, as does Lennox Browne. Belfanti and DellaVedova,[32] following out the therapy suggested by their investigations of the diphtheria bacillus in their cases, employed antidiphtheritic serum in thirty-two cases, sixteen of which were said to be cured, seven almost cured, five improved, and four showing slow improvement.

Hartman,[33] following Shurly and Delavan, reports excellent results from the use of the galvanic current, the positive pole being placed at the nape of the neck, by sponge electrode, the negative to the nasal mucous membrane by means of pledgets of cotton wrapped around insulated wire, and well moistened. The seances were from five to fifteen minutes, three or four times a week. Capart,[34] and his assistant Cheval,[35] make extended reports of treatment of this disease by electrolysis. They introduced a copper or silver needle, on the positive pole, into the middle turbinated, and a steel needle through bone and membrane of the lower turbinated, of the same side. They claim that there should be 90 per cent. of cures by this method, and that often one sitting is sufficient. The current used is about twenty milliamperes, from seven to fifteen minutes. In 300 treatments they had no accident. Bayer, however, reports a case in which developed a hemorrhagic otitis media, followed by meningitis and death. They report disappearance of crusts and odor, and return of the membrane to its normal appearance. To those who have treated many cases of atrophic rhinitis their claims seem very extravagant.

G. Hunter Mackenzie[36] reports that he has succeeded well by curettement in a number of cases. He follows the operations with oily applications, as a mixture of ichthyol and olive oil. Berens[37] reports good results from the use of undiluted ichthyol applied by a tampon in each nostril, and allowed to remain about fifteen minutes. This was followed by massage by means of a pledget of cotton wrapped on a probe and saturated with ichthyol.

Seiss[38] recommends a drachm of a 30 per cent. solution of peroxid of hydrogen, as a spray for each naris as a cleanser. When the crusts have been removed he uses massage by a probe wrapped with a cotton swab, well oiled, covering the whole area of the membrane rapidly for three to six minutes, care being taken not to denude the tissues. He follows this with stimulant applications, such as europhen, thymol, or cinnamon oil in albolene.

Skin grafts have been tried in these cases, but we can not hope for success in this treatment, inasmuch as it is an impossibility to replace the ciliated columnar epithelium by such grafts. The general health and hygienic surroundings of the patient should be carefully attended to.

It is no reproach to our profession if we shall not restore an atrophied membrane to its normal condition. There need be little discomfort to the patient or to others, if the disease is persistently and properly treated. Prophylaxis lies in the cure of the antecedent catarrhal condition.

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TRACHEAL INJECTIONS IN THE TREATMENT OF LARYNGEAL AND PULMONARY INFLAMMATIONS.

Read before the American Laryngological, Rhinological and Otological Society, Washington, D. C., May 1, 1897.

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The first physician who left us a record of a systematic study of intra-tracheal medication was Dr. Horace Green of New York. Long before the invention of the laryngoscope he had attained remarkable dexterity in passing a sponge probang, saturated with a solution of nitrate of silver, into either bronchus. His reports of his methods and results were so extra-

ordinary that the New York Academy of Medicine appointed an investigating committee to determine the truth or falsity of his statements. The committee agreed that he could and did employ the method described, but a majority condemned its use. With the invention of the laryngoscope there was no immediate revival of the method of direct medication in the treatment of laryngeal and pulmonary inflammations. It is only within the last few years, that occasional reference to this subject can be found in medical literature.

There are several reasons for the slow growth of this manner of treatment, in professional favor. The principal one is, that, few physicians are sufficiently expert in the examination and treatment of the upper air passages to employ it. As a rule they consider all lesions of the nose and throat as local, with but little influence on the health of the patient. This lack of appreciation of the importance of these conditions is largely responsible for the neglect of direct medication. Another reason for the limited use of intra-tracheal injections, is the mistaken opinion, that they are necessarily painful and irritating. Our ideas of the sensibility of the tracheal and bronchial mucous membrane, have been erroneously deduced from that of the larynx. Below the glottis, the nerves of sensation are few, and the membrane is not irritated by solutions much stronger than those we use in the larynx. While these reasons have been potent in preventing the more general knowledge and use of this method, there are other and much better reasons for the general use of direct medication in inflammatory diseases of the larynx, trachea, bronchi and lungs.

By the method of intra-tracheal injection we get the direct local action of the medicines on the diseased areas. In bronchi ectasis, no medicine given by the mouth, will prevent the decomposition of the secretions in the dilated bronchi. The odor and the absorption of septic material from them can not be controlled. A few tracheal injections will usually disinfect the cavities so that the odor disappears and the temperature becomes normal.

It is possible by intra-tracheal medication to produce a rapid and prolonged general effect. Anesthesia gives daily and hourly evidence of the rapidity with which volatile medicines are absorbed through the lungs, and their effect on the whole organism. From three to five minutes is a sufficient time for an expert to obtain chloroform anesthesia. You can produce as rapid an effect, and one much more durable, by injecting into the trachea, medicines which volatilize slowly at the temperature of the body. Where a dose of menthol had been given in this way, you will find the surface flushed in five minutes; the cold extremities have become warm and sometimes the patient breaks out in a profuse perspiration. This stimulating action lasts for hours.

Medicines used by tracheal injections are not changed by passing through the digestive organs into unknown compounds. For this reason we can be more certain of their action. No one would think of treating a tubercular laryngitis by internal medication alone. There is just as much reason for applying medicines of known beneficial, local action, directly to the lungs, as there is for using them in the larynx.

Where medicines are injected directly into the trachea they have no deleterious effect on the organs of digestion. Our valuable expectorants such as are used in acute and subacute catarrhal diseases, act injuriously on the stomach and intestines. The name of one class, nauseating expectorants, testifies to the universal recognition of this fact. The cure of a bronchitis by direct medication without interfering with nutrition is an advance in therapeutics.

Direct antisepsis can be secured by local medication. It is not possible to obtain this result by remedies given internally. We are prone to forget, that in tuberculosis, we are dealing with a mixed infection. In the stage of ulceration and breaking down of tissue infiltrated by tubercular matter, there is always a secondary infection by the germs of suppuration. It is to these, in all probability, that most of the fever, the night sweats, and the other evidences of sepsis are due. We do not attempt to disinfect a leg ulcer by medicating the stomach. It would be just as rational to do so as it is to attempt to disinfect suppurating cavities in the lung by medicine administered per os. In cases where tracheal injections can be tolerated, the antiseptic action of the remedies chosen will be very speeedily shown, by the subsidence of the cough, by change in the character of the expectoration, and by the decline in the fever.

The administration of medicines by intra-tracheal injection, does not interfere with any other line of treatment. Diseases in other organs may be treated or tonics given, while local treatment of the lungs is being used, without any incompatibility.

Where medecines are given by the tracheal rather than by the esophageal route, we can relieve symptoms in hopeless cases without narcotics. We thus avoid their bad effects on nutrition. We also escape their secondary depressing action on the nervous system. A little menthol injected into the trachea will quiet a cough longer and more effectually than will a quarter of a grain of morphia given hypodermically.

Conditions not affected by constitutional medication can be cured by tracheal injections. Gummata in the lung, which resisted all other treatment, have been cured quickly and easily by direct medication of the suppurating cavities.

There are several conditions necessary for success in this method of treatment. The first essential is that the doctor himself be skilful enough in laryngology to do the work rapidly and delicately. The patient must possess a reasonable amount of self-control and be willing to follow directions implicitly.

It is probable that the medicines used for this treatment should be such as volatilize slowly at the temperature of the body. They should be soluble in the vehicle employed. The solutions used should not be too irritating. The most serviceable solutions are menthol, 2 per cent.; guaiacol, 1 per cent.; creosote, 1 per cent.; camphor, 2 to 3 per cent. Any of these may be combined. In acute diseases the menthol and camphor solutions are most efficient. In tuberculosis menthol and guaiacol give the greatest relief. Guaiacol gives good results in any septic condition in the lungs or bronchi. The vehicle used should be one of the light petroleum oils or olive oil. Alcohol and water are too irritating and produce violent couging. There is ordinarily no spasm and but little cough or distress after an injection of the above solutions. The dose is from one to four drams. The diseases in which intra-tracheal medication will be of service must be determined by clinical observation.

I wish to present only a few deductions from my experience with this method of treatment during the last five years. The necessary condensation may

make my statements seem too dogmatic. All are based on cases actually treated and are deductions drawn from results thus obtained.

My first notable success was in pulmonary tuberculosis. In August, 1892, I began treating a woman with every symptom of this disease. Her attacks of coughing were so prolonged and violent that she frequently vomited and was unable to sleep at night. An injection of a solution containing menthol, 2 per cent., guaiacol, 1 per cent., at 4 o'clock in the afternoon would control the cough so that her dinner would be retained and she would get a good night's rest. The cough did not return, as a rule, until the following morning. The patient's symptoms entirely disappeared and treatment was discontinued. A little more than a year after she ceased treatment she became pregnant, and with the digestive disturbances incident to this condition, there was a return of the cough, vomiting and inability to sleep. The treatment by tracheal injection was resumed, again resulting in apparent cure. The pregnancy was uninterrupted and the patient has had no further occasion for treatment during the last four years.

In other cases of pulmonary tuberculosis, symptoms have been greatly relieved, but I have no other cures, where a sufficient interval has elapsed since treatment to make the statistics worth recording.

A few cases that I have seen, where the tubercular disease was making very slow progress, have not been benefited by tracheal injections. Where the diseased process is a chronic, not an acute one, the symptoms have been aggravated by the remedies used.

My next notable success in this treatment was in pulmonary syphilis. Fortunately, this is a rare condition, but there are some cases where gummata form in the lung in the tertiary stage, and where the disease is not controlled by constitutional medication. I reported a case of this kind in the *Medical Record*, Oct. 21, 1893. I have recently seen this same patient and there has been no recurrence of the trouble at the site of the original lesion.

In the first stage of acute bronchitis, where there is no secretion, tracheal injections have proven irritating. I have abandoned them at this stage and give something to induce free sweating instead. In the second stage, after free secretion has been established, intra-tracheal injections of menthol and camphor will relieve the cough more than any other treatment, and daily injections will shorten the attack at least one-half, as compared with cases treated by a stomach medication.

In chronic bronchitis there is no comparison between the two methods of treatment. The results are so much more rapid and satisfactory by intra-tracheal medication, that no patient, who has once been given this treatment, is ever willing to continue internal medication.

There is a condition rarely mentioned, often associated with chronic diseases in the upper air passages, which gives rise to many of the symptoms that we attribute ordinarily to chronic laryngitis. This is chronic catarrhal inflammation of the mucous membrane of the trachea. You will also frequently find in cases of acute bronchitis that the trachea remains inflamed, as can be seen by laryngoscopic examination, after all the physical signs of bronchitis have disappeared. This is especially true of cases where there is chronic rhinitis and laryngitis, as the underlying cause of the acute attack. This chronic inflammation of the tracheal mucosa gives rise to more or less cough and a feeling of soreness, and sometimes to distinct pain in the chest. Physical examination in this condition shows no signs. It can only be detected by direct examination of the trachea, either by the laryngoscope or by the autoscopic method. Where this tracheal inflammation is coexistent with a chronic laryngitis, the ordinary treatment for laryngitis will fail unless combined with tracheal injections for the cure of the disease of that organ. Stimulant expectorants, given internally, have little influence on the course of a tracheal inflammation. Direct local medication ordinarily results in a very speedy cure.

Some cases of asthma are notably relieved by tracheal injections. The paroxysm is relieved for hours after the treatment. The bronchitis which usually accompanies this condition, is cured more speedily by direct medication than by internal treatment. Some cases of pulmonary emphysema have been given great relief by tracheal injections. The effect was probably obtained through the cure of the chronic bronchitis which usually accompanies this condition.

Where the remedies to be used are not irritating, it is not necessary to spray the larynx with cocain. The injection can be given while the patient takes a slow full inspiration. The process can be repeated until a sufficient dose has been administered. Where strong solutions or those irritating to the larynx are to be employed, that organ must be anesthetized. The tip of a properly curved tube of a syringe is then introduced between and below the vocal cords, during inspiration, and the whole dose given at once.

To an expert laryngologist there are a few technical difficulties in the treatment. There are none which need discourage the family practitioner and prevent him from attempting it. The method is useful in so many pathologic conditions frequently seen by every practitioner, that all should know of it and use it. When they do, they will learn as a few have already learned, that in the method of intra-tracheal injections we have a means of promptly relieving symptoms, and curing some diseased conditions that are not benefited by any other treatment.

THE STREPTOCOCCUS PYOGENES THE CAUSE OF DIPHTHERITIC CONJUNCTIVITIS IN A CASE OF MEASLES.

Read at the meeting of the Chicago Pathological Society, April 12, 1897.

BY H. A. BRENNECKE, M.D.

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The following case is thought to merit a somewhat complete report because it was diagnosed clinically as true diphtheria of the conjunctiva, by Dr. Cassius Wescott on the strength of the macroscopic appearance of the eye, whereas the microscopic examination demonstrated the absence of the diphtheria bacilli and the presence of the streptococcus pyogenes in short chains, not only in the eye but in the blood and various organs.

The case occurred in a boy three years old. The patient had been living at "The Home of the Friendless" from which a number of patients with measles had been brought to the Cook Country Hospital into the service of Dr. W. L. Baum. The patient had been sick three days before admission, complaining of sore

throat, headache, slight coryza and had vomited once.

On examination the body was found well nourished, eyes with slight conjunctival injection, the expression was dull and there was photophobia, lachrymation and serous discharge from the nose. The pharynx was injected, tongue coated, tonsils enlarged, as also the cervical glands. The heart's action was accelerated. The lungs revealed numerous dry râles. The abdomen showed nothing of interest. Skin: On the face there were numerous crescentic, round and irregular "blotches" of a red papulo-macular variety, which became diffused over the entire body on the second day.

During the course of the diesase the following observations were made: On the day of admission the pulse was 124, temperature 102.4, respiration 36; after this they varied as follows: pulse 130–160, temperature 101–105, respiration 40–48 up to the last day, when the pulse was 172, temperature 102.3, respiration 56–64.

On the fifth day an examination of the urine showed the presence of albumin and hyalin and epithelial casts. The conjunctiva of the right eye was markedly injected, particularly that of the palpebræ. The following day the injection was more intense, the lower lid much swollen and on eversion showed a heavy white exudate. On the eighth day both lids were edematous and their conjunctivæ covered with a heavy white membrane. The bulbar conjunctiva was injected and the cornea smooth and shiny. The discharge from the eye was abundant and milky. The left eye was unchanged.

At about the same time that the changes in the eye were noted, superficial ulceration about the alæ of the nose appeared, which gradually extended and caused an occlusion of one of the nares.

As the condition in the eye had been diagnosed a true diphtheria of the conjunctiva, repeated cultures were made on blood serum from the nose, eye and throat, but only micrococci, staining with Gram's method, were found, which grew in fine white translucent and yellow circular colonies. Direct cover-slip preparations made from the eye showed only micrococci.

On the tenth day the following note was made: Patient restless, often refuses nourishment, pulse rapid but of fair quality, respiration rapid, skin rough and dry and the back and shoulders as well as other parts of the body show diffuse irregular patches of red which do not disappear entirely on pressure. The nose is but little changed. The mucous membrane of the mouth shows irregular white patches. The eye is the same with the exception of a hazy cornea. Examination of the lungs reveals numerous subcrepitant and mucous râles diffusely spread, most marked over the lower lobes. A large area of dulness with increased voice sounds is found over the right lower lobe.

Death took place eleven days after admission. The postmortem examination was made twelve hours after death. Only the essentials are given here. The body was well nourished. The heart showed no changes except paleness. The trachea was ecchymotic. Both lungs contained numerous areas of consolidation of grayish red color and which reached a considerable size in the right lower lobe. The lung tissue around the smaller bronchi was infiltrated with blood. By pressure a muco-purulent fluid was forced from the bronchi. The spleen was firm, enlarged and mottled on section. The kidneys showed fetal lobulation, the capsules peeled readily leaving a smooth surface, on section they were pale and the cortical markings were distinct. The mesenteric, cervical and peri-bronchial lymph glands were enlarged. The tissues about those of the neck were edematous. The right eye showed the lids swollon, their conjunctivæ covered with a dirty gray membrane and the cornea hazy. Cover-slip preparations made from the blood and stained by Gram's method showed streptococci.

The bacteriologic examinations was made with the aid of Dr. Geo. H. Weaver. Innoculations were made on blood serum from the following organs: the blood of the heart, the lungs, the cellular tissue and glands of the neck, the spleen, the kidneys, the right eyeball and the liver. The blood, spleen, kidneys and liver showed a pure culture of fine, white, circular, translucent flat-topped colonies. Cover-slip preparations made from each stained with Gram's and showed streptococci. The organism appeared in similar growths on 5 per cent. glycerin agar. Stab cultures in gelatin produced a fine globular growth along the puncture which became confluent and did not liquify the gelatin. Litmus milk was changed to a slight reddish color and was not coagulated. Bouillon showed a fine gray sediment leaving the medium above clear. Potato showed no visible growth in four days. The cultures grew more rapidly at the temperature of the thermostat; 5 c.c. of a bouillon culture two days old injected into a vein of the ear of a full-grown rabbit did not cause death. From the above peculiarities it was concluded to be the streptococcus pyogenes.

From the eye, lungs, glands and cellular tissues of the neck a second micrococcus with following characteristics was obtained. On blood serum, 5 per cent. glycerin agar and potato the colonies were heavy, circular and light yellow in color. Gelatin was liquified, made turbid and of foul odor. Bouillon was likewise rendered turbish and foul. It grew best at room temperature; 2 c.c. of a bouillon culture injected into the peritoneum of a rabbit produced no marked symptoms. It was concluded to be a saprophytic micrococcus.

Histologic examination of the various organs showed the following: In the right eye the cornea shows the epithelium destroyed, round cell infiltration into its tissues and there is also infiltration into the anterior chamber, sclera, ciliary body and optic nerve. On the outer surface of the sclera and cornea there is a layer of granular homogeneous material which in part takes the hematoxylon stain and shows extensive nuclear fragmentation and fibrin, evidently a superficial necrosis. The lung shows the changes of broncho-pneumonia. The spleen and the glands of the neck show an increase of cellular tissue. The heart, liver and pancreas show no changes.

Sections of the various tissues stained by Gram's method show streptococci in the vessels.

Summary.—The bacteriologic examination showed the presence of the streptococcus pyogenes in the right eye as well as the body generally. On account of the simultaneous ulcerative condition in and about the nose it can not be positively stated that the eye formed the atrium for general infection. On the other hand it is quite probable that the eye became involved by the streptococcus being brought there by the circulating blood. The primary atrium for infection may have been in the throat.

PURULENT PERICARDITIS WITH REPORT OF A CASE DUE TO TRAUMATISM.

Read before the Michigan State Medical Society, Grand Rapids, Mich., May 14, 1897.

BY FRANK W. GARBER, B.S., M.D.
MUSKEGON, MICH.

Purulent pericarditis presents essentially the same chain of symptoms as those shown by a non-septic pericardial inflammation. The history of the case may point strongly in the direction of a purulent effusion, but the aspirator alone can determine positively the nature of the fluid. The disease may even run its course without such aids to diagnosis, as fever and edema of overlying tissue. A preëxistent or a co-existing ulcerative endocarditis, a pyemia, tuberculosis or an empyema, an abscess of the mediastinum, caries of the ribs, gangrene of the lungs, or a trauma may make evident the presence of pus, and are among the leading causes of purulent effusion into the pericardium. Pericarditis whether purulent or non-purulent is a secondary trouble, and is probably frequently overlooked by the physician.

The healthy pericardial sac of an adult holds from 420 to 630 grams. It is somewhat pyriform in shape and lies back of and to the left of the sternum, extending from the third to the seventh ribs with its broadest portion at its diaphragmatic attachment. Upon the greater or less distension of this sac, together with the intensity of the inflammation and the character of the exudate, depend the phenomena of pericarditis. As effusion takes place, the sac gradually distends from below upward, the area of precordial dulness broadening and rising as the quantity of fluid increases. The lungs are crowded back and to either side. The diaphragm is depressed. The dulness may extend from the xiphoid process to the top of the sternum, and from nipple to nipple. As the amount of effusion increases, the site of the heart's impulse is raised and carried outward, sometimes reaching as high as the third interspace. With encroachment upon the lung space come dyspnea, and an interference with the normal respiratory movements. The play of the upper ribs is increased and there is limited motion on the left. The lateral movements of the abdomen are lessened, the play of the left side being less than that of the right. Pressure upon the vena cava and the pulmonary veins tends to venous engorgement, and the dusky countenance so frequently seen. In the young, and where there are large accumulations of fluid there may be precordial prominence. There may be friction sound, and an intermission of the radial pulse during inspiration, at a time when there is no intermittent heart action. Accentuation of the pulmonary second sound is remarked as one of the most constant signs of pericarditis. If to the symptoms enumerated there are added hectic, sweating, and such other familiar signs of confined pus as are characterized by empyema, the diagnosis of purulent pericarditis becomes reasonably certain.

As far back as the seventeenth century, we find clinicians discussing the advisability of opening the pericardial sac for the relief of pericardial effusion. It was not until 1819, that the operation was first successfully performed. Romero of Barcelona operated by incision, in three cases, two of which recovered. In 1840 paracentesis was performed by Schuh for pericarditis due to cancer, the patient living six months after the operation. The first instance of tapping of the pericardium, in this country, occurred in the practice of Dr. Warren of Boston, in 1852. These operations were all for the removal of non-purulent effusions, though tapping has been recommended and practiced until recent years for the relief of either class of cases.

The first authentic case I have been able to find of the treatment of purulent pericarditis by the scientific and reasonable method of incision and drainage, is found in the fifth number of the *Berliner klin. Wochenschrift* of 1881.

A boy ten years of age had suffered from empyema which failed of relief by tapping. Indications pointed to a pericarditis, which by aspiration was found to be purulent. Though several ounces of pus were removed by this method, no improvement followed, but rather. increasing dyspnea, lividity and edema of feet and legs. Sleep became broken and the general condition poor. An incision into the pericardial sac, between the fourth and fifth ribs near the border of the sternum, was then made under the antiseptic precautions then in vogue. Two drainage tubes were placed in the opening and the wound inclosed in a Lister dressing. Prompt relief followed though recovery was retarded by co-existing empyema, which was finally relieved by incision and drainage.

Operation by incision and drainage was performed for the first time in England by Dr. Samuel West in 1883. Great success followed the operation. There was no deformity of the chest and only a very small scar remained.

In 1885, Michaeloff, after a preliminary tapping which was followed by slight improvement, incised the pericardium of an adult female in whom the purulent pericarditis seems to have been a sequela of Bright's disease. Temporary improvement followed, but the patient died a short time after the operation. Postmortem revealed a fatty degeneration of the heart with great dilatation.

In the same year, Gussenbauer resected five ribs and washed out the pericardial sac with a thymol solution. His patient recovered.

Davidson reported in the *British Medical Journal*, March 1891, two cases treated by incision and drainage. The first case was that of a boy of six in whom pyopericardium was secondary to necrosis of one of the metatarsal bones, and further complicated by pneumonia and a subperiosteal abscess of the eighth rib. A free incision was made in the fifth interspace, and eight ounces of pus were evacuated. There was some temporary relief but the patient died within a week. The second case occurred in a boy of seven, and followed a purulent pleuritic effusion which had been appropriately treated without giving any apparent relief. Examination revealed the presence of a pericarditis which proved to be suppurative. The sac was opened, free drainage established and the patient made an uninterrupted recovery.

Beekman and Stall report a case in which the pericardium was opened after trephining the sternum. Recovery followed.

Bronner relates a case of pericardiotomy in a girl of 11, which terminated fatally after twenty-five days.

Scott reported a case of pyopericardium (*New Zealand Medical Journal*, July 1891), in which he opened the sac, removed a large quantity of pus and irrigated the cavity with a solution of carbolic acid (15 to 1000). The operation was followed by complete recovery.

In the *International Medical Magazine*, June 1893,

Edwards gives the details of a case treated by incision and drainage. The patient was a poorly nourished and illy developed child of 6 who for a month had complained of pains in the left costo-sternal region. There were continuous fever, dulness over the precordial region, dyspnea, edema of face and ankles, and albuminuria. The operation was followed two weeks later by a purulent pleuritic effusion, the relief of which gave no signs of improvement, and the child died of exhaustion at the end of the third week.

Eiselberg of Vienna, reports a case which is of especial interest in connection with this paper, because like my own case, it was traumatic. A boy of seventeen received a stab wound which penetrated the pericardium. Pericarditis followed. Relief from the distressing symptoms was sought by tapping, but without permanent improvement. The cartilage of the fourth rib was accordingly resected, the pericardium exposed, and about two liters of sero-purulent fluid evacuated. The sac was irrigated, the borders of the sac stitched to the edges of the wound, and two drainage tubes inserted. The boy had completely recovered at the expiration of a month. Eiselberg insists on the necessity of stitching the pericardium to the lips of the wound to prevent infection of the pleura, a procedure which seems to have some theoretical warrant, but which in fact seems hardly necessary, as the danger of entering the pleural cavity through the fifth interspace at the point of election is very remote. If we draw a line from the left nipple to the end of the xiphoid process, bisect the line, and with this point of bisection as a center inscribe a circle with a radius of one inch, we shall inclose within this area a portion of the pericardium which in health is not covered by the pleural sac. This area is greatly increased in pericardial effusion.

The following are the details of my own case, the happy termination of which makes the indications for treatment in this class of cases none the more positive though encouraging, perhaps, to larger fidelity to fixed surgical principles, no matter what part is involved.

M. H., a healthy well-developed girl, aged 21 years, in a scuffle with some companions, ran a steel crochet needle into her chest about an inch to the left of the sternum and in the fifth interspace. The needle passed into the tissue, one and a fourth inches, and broke off. The accident occurred in the evening of Jan. 12, 1897, and the patient came to me within a few hours following. She was somewhat nervous, but apparently suffered no pain, while there was only moderate acceleration of the pulse. A small point showing the place of entrance of the needle was all that could be seen. Palpation did not reveal anything and an aseptic incision was made to a considerable distance into the tissue without disclosing anything. I therefore concluded that the broken end of the needle had not remained in the tissue, but had been lost in the excitement following the accident. Acting on this belief, the patient was sent home, with instructions to return again. The search of the following day convinced me that the needle was still there and the patient was advised to have an anesthetic and such operation as was necessary to relieve her. Her consent to such procedure could not be obtained however, until three days from the time of the accident had elapsed. There was at that time considerable rise of temperature and an increased pulse rate. A crucial incision was made, having the point of entrance of the needle, the point of intersection of the lines of incision. The flaps were dissected back, and, after considerable search the end of the needle was found in the intercostal muscle flush with the costal cartilage. It required considerable effort to remove it, and it was found that the hook of the needle had carried a thread of cloth into the pericardium, into which it had entered and in which the needle had remained ninety-six hours. Septic pericarditis was feared, as there was already a temperature of 101 degrees and a pulse of 125. It was not thought justifiable at this time, to incise the pericardium. For the twenty-four hours following the removal of the needle, the patient's condition remained much the same, temperature and pulse not declining. On January 17, two days following the removal of the needle, the temperature began to rise and the pulse became more rapid, though there had been no chill. January 18, at 10 A.M. the temperature was 102 degrees; at 8 P.M. 103.5 degrees with a pulse of 140. The face became somewhat dusky, the lips bluish, and the tongue took on a heavy brown coating. There were constipation and much restlessness. She was unable to sleep on the nights of January 18 and 19. Up to January 21, much the same general condition obtained. There remained the same cast of countenance. The pulse remained regular but rapid. Both heart sounds were audible. There was no dyspnea, but great restlessness. There was unusual mental alertness. The eyes were bright. There was sighing at times. She had no appetite and was almost free from pain. There was an increase of the precordial dulness. A diagnosis of septic pericarditis was made and an incision with flushing and drainage advised and declined. On January 21, the temperature subsided and the pulse went down to 109. This period of apparent improvement lasted until January 25, when the temperature again began to rise and the area of precordial dulness to increase, indicating an increasing effusion. An operation was again urged, and, in view of the gravity of the case, accepted. Accordingly on Januaay 26, with the able assistance of Dr. J. Vanderlaan and Dr. G. S. Williams, the wound for the extraction of the needle was enlarged, and an incision carried down through the intercostal muscle one and a half inches to the left of the sternum in the fifth interspace, keeping as nearly as could be to the point of entrance of the needle. A careful dissection soon carried us through the pericardium, which seemed to be attached to the anterior wall. About an ounce of thick pus and a considerable amount of puro-sanguinoform half clotted matter were evacuated. No effort was made to make extensive exploration, but the finger detected within the pericardium much soft fibrinous material which was easily broken down. The cavity was flushed with a saline solution and an iodoform wick inserted. No great shock was suffered. The temperature was normal on the evening of the day of the operation, with a pulse of 108, and never again went above 100 degrees. The patient made an uneventful recovery, being discharged cured just twenty-four days after the operation.

The extreme gravity of a case of purulent pericarditis warrants almost any measure that holds out hope of relief. When that measure is so well grounded a principle of surgery as that of the free evacuation of septic material whenever found, it is gratifying to find its application in practice followed by so encouraging results as a review of the preceding cases shows. Out of twelve cases here reported, some of which were

complicated with diseases in themselves necessarily fatal, there were eight recoveries. It is my belief that under proper precautions, pericardiotomy is attended by no greater danger than pleurotomy, and in cases uncomplicated by maladies tending toward a fatal termination, the results will be equally as good. It is the only procedure which justifies itself to the modern surgeon. The dangers attending incision and drainage are not to be compared with the danger of expectant inactivity, and I am certain that many of them are overestimated. Pericardiotomy offers the only chance for safety in these cases, and must take its place among the operations sanctioned by good usage and good sense.

159 Jefferson Street.

A NEW INCISION FOR THE SURGERY OF THE BILE TRACTS.

BY A. D. BEVAN, M.D.

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The subject of the surgery of bile tracts is of recent development. In 1867 Bobbs of Indiana performed cholecystotomy. In 1882 Langenbuch removed the gall bladder, cholecystectomy. In the same year Gaston suggested cholecystenterostomy, which was later perfected by the introduction of the anastomosis button by Murphy. In 1890 Courvoisier performed and advocated choledochotomy, and later the removal of stones from the cystic duct and hepatic duct were reported.

In the last five years the value and possibilities of the surgery of the bile tracts has been so thoroughly demonstrated, that it is today a recognized field to all men doing abdominal work.

A few years ago, when I began to do surgical work on the bile tracts, I carefully reviewed the topographic anatomy of this region. I was surprised to find how completely the subject had been neglected by both anatomists and surgeons. And here let me say a word in behalf of surgical anatomy. It is the boast of some surgeons of the present brilliant aseptic period that they ignore anatomic boundaries and anatomic reasoning in their operative work. It is so easy to cut and ligate and suture deep and superficial structures and obtain primary union, that a careful study of operative procedures is regarded often as unnecessary, and is as a rule neglected.

In surgical training, for the time being, anatomy is overshadowed by pathology, and as a result, the surgeons of today are better pathologists to be sure, but much poorer anatomists than the surgeons of the past generation. This is a fault which is often evident even in the work of eminent surgeons, and which must be corrected. A perfect mastery of the surgical anatomy is absolutely necessary for the performance of the best operative surgery in any field of surgical labor. This applies with special force to the surgery of the bile tracts, and yet many operations on this region are performed by men who have no clear idea of the anatomic relations of the parts or of the possible dangers, and who do not see the necessity of preparing themselves by cadaver study before undertaking such work. Such brilliant work as Kocher's teachings of making incisions in the lines of normal cleavage, as Bassini's hernia operation, as McBurney's and McArthur's splitting operation for appendicitis, as Hartley's removal of the Gasserian ganglion, as McEwan's studies of mastoid disease and brain abscess, as Kraske's incision for removal of the rectum, are all results of anatomic studies applied to surgery; they are what might be called anatomic surgery and they demonstrate its value.

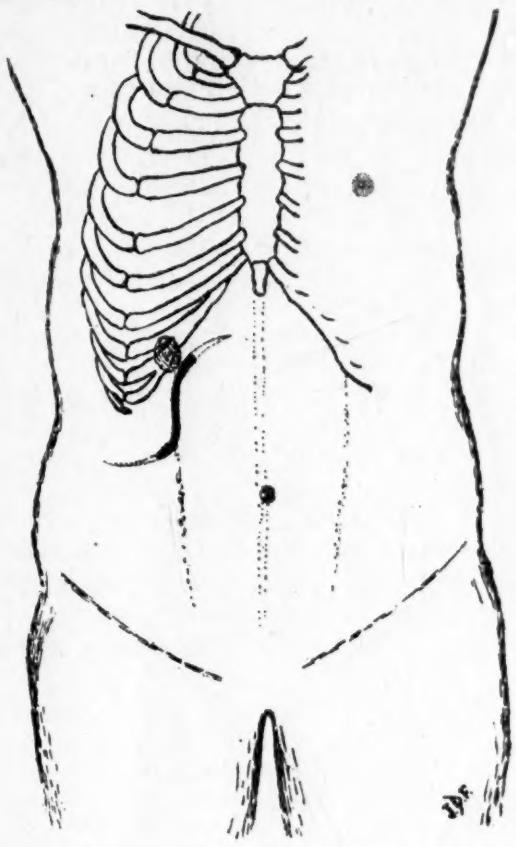

FIG. 1.—Heavy line the primary and light lines the extended portions of incision.

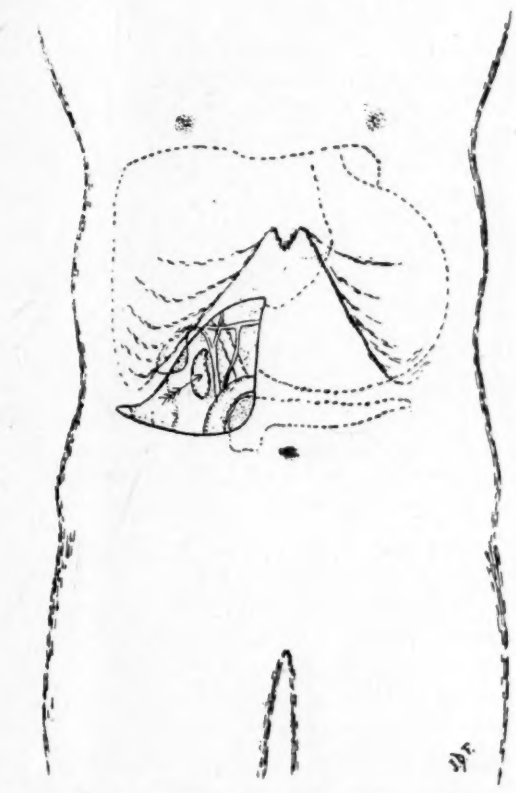

FIG. 2.—Abdomen opened and anterior layer of lesser omentum removed. Gall bladder, cystic, hepatic and common duct, portal vein, hepatic artery and branches in view. Arrow in foramen of Winslow.

With the objects of determining the best method of exposing the bile tracts for exploration and operative procedures, and for determining the position and relation of the bile tracts to other structures so that operations could be conducted with a minimum of danger to important structures, I undertook a series

of twenty dissections. In this brief report I desire to present not the entire results, but one of the results of my investigations, namely, the abdominal incision which is best adapted for bile tract surgery.

In my early clinical work I made use of the incisions which have heretofore been generally employed. First, the vertical incision along the outer border or through the substance of the rectus; second, the transverse or liver border incision of the Germans; third, the ⊣ shaped incision made up of an incision along the outer border of the rectus and one joining it at right angles; and fourth, the incision in the upper half of the linea alba for common duct work.

The objections to these incisions are many. They could be summed up in a few words. These incisions do not give room for extensive work unless they are made very long. When they are made very long, they carry with them the danger of hernia. Every one who has done much common duct work must realize the difficulty of obtaining free access to the operative field through the incisions usually employed, and in spite of statements to the contrary, hernias after extensive incisions for bile tract procedures are not uncommon. No surgeon can tell before opening an abdomen for an operation on the bile tracts how extensive an operation may be required, and it is therefore desirable to adopt an incision which will be suitable for exploration and simple procedures and which, at the same time, can be readily extended to meet the demands of the most extensive operation.

The vertical incision along the outer border of the rectus answers very well for cholecystotomy, but does not give sufficient room for bile duct work unless made very long, and even then the edges of the incision are tense and much traction is required to expose the field of operation. The result of such extensive incision is to cut off the nerve supply of the right rectus muscle and thus weaken the abdominal wall. The ⊣ shaped incision can be made extensive enough to expose the bile ducts freely for operative work, but it is the most objectionable incision that can be employed. It is difficult to suture properly. It is difficult to obtain good union at the point where the incisions meet. I have seen necrosis of the sharp corners of the flaps at this point. It is prone to leave a weakened abdominal wall. In my own limited experience I have had three hernias following this form of incision; two after nephrectomies and one after choledochotomy.

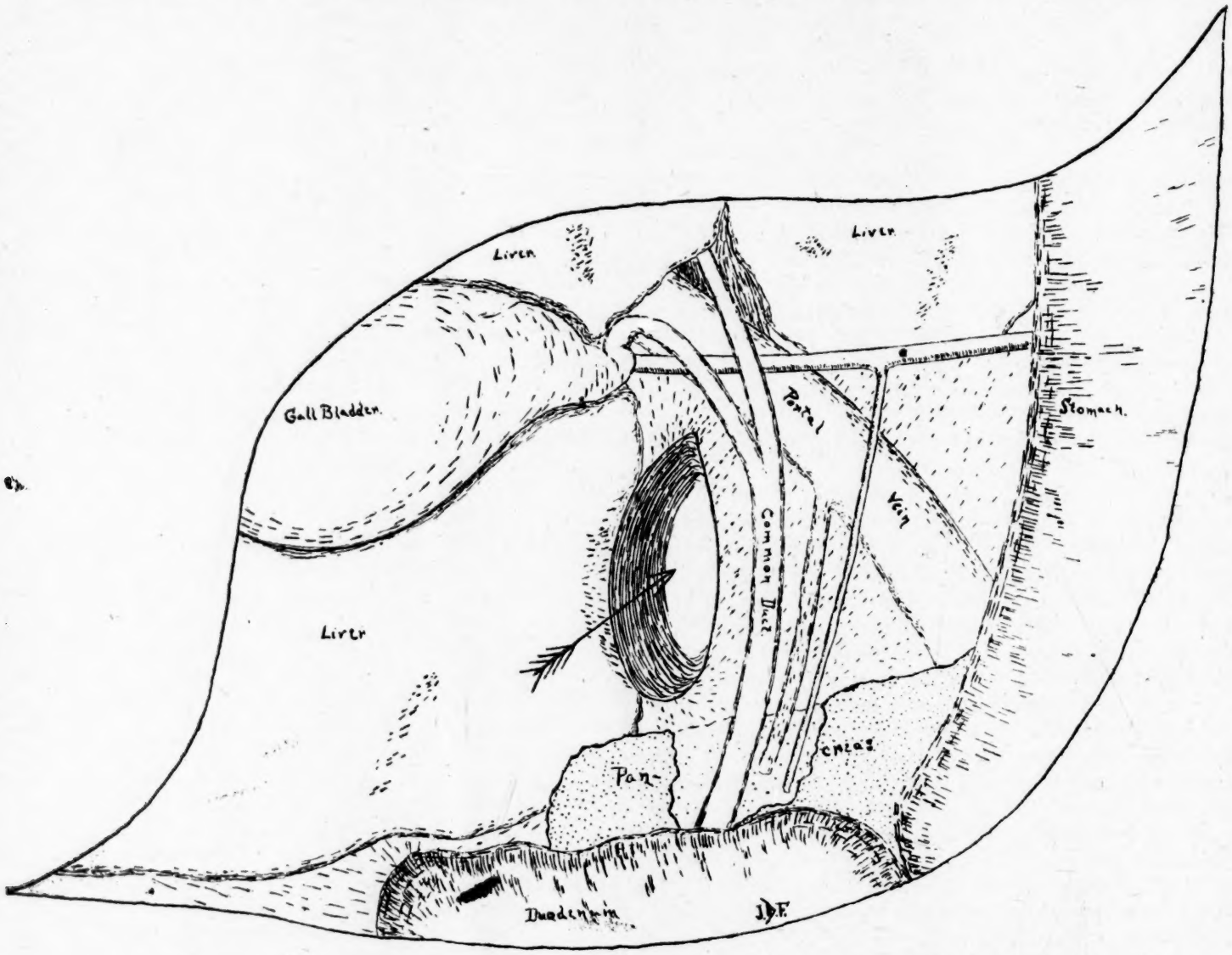

FIG. 3.—View of structures seen in incision after removal of anterior layer of omentum. Natural size.

The transverse or liver border incision is not as objectionable as the two above mentioned, but it does not meet the requirements as completely as the incision which I shall describe. The incision in the upper part of the linea alba for work on the common duct is objectionable because it does not give free access to the gall bladder, and in many cases of common duct work the gall bladder also requires operative treatment. The problem which was before me in my dissections was to develop an incision which would answer for exploration and which, in case of need, could be

extended sufficiently to obtain free and easy access for the performance of any operation required, and at the same time this incision must impair the integrity of the abdominal wall as little as possible and carry with it a minimum of danger of subsequent hernia.

The incision which I have developed, I believe, meets these requirements, and as it can now be urged both from anatomic grounds and clinical results, I feel warranted in presenting it to the profession as a small but not unimportant contribution to the surgery of the bile tracts.

My incision should be divided into a primary portion and the extended parts of the incision. The primary part, which can be employed for exploration or simple cholecystotomy, is an italic letter *f*-shaped incision along or through the outer border of the rectus muscle, as shown by the heavy line in Fig. 1. This may be made from three to four inches in length. The extended parts of the incision are added to this when required. These extended portions are seen as the faint lines in Fig. 1. These extended portions can be made from an inch to three inches in length as the thickness of the abdominal wall and the character of the operation demand. When complete, the incision furnishes much freer access to the gall bladder and bile ducts than can be obtained by any other form of incision. The edges of the incision are readily held apart without tension, and the entire bile tract is freely exposed for examination and operative procedures.

Anatomically the incision injures a minimum amount of the nerve supply of the abdominal wall, because, even though the incision is made of great length, the extended parts of the incision run almost parallel with the nerve supply of the abdominal muscles. By a division of the rectus in part and of the internal and external oblique and transversalis muscles, the incision can be widely separated without tension. The fact that the incision is in close contact with the costal arch makes resulting hernia improbable, as a cicatrix in the upper part of the abdominal wall does not as readily yield and produce hernia as a cicatrix in the lower portion of the abdominal wall.

The following structures are divided in the incision: Skin, superficial fascia, external oblique muscle and aponeurosis, internal oblique muscle and aponeurosis, transversalis muscle and aponeurosis, rectus muscle, the transveralis fascia, which is here very thin, and the peritoneum. A few of the terminal branches of the intercostal nerves to the rectus are divided, and the anastomosis between the internal mammary and deep epigastric arteries in the substance of the rectus is divided and usually needs ligating. The incision should not be nearer than three-quarters of an inch to the costal arch.

When the complete incision is made the following structures can be seen as represented in Fig. 2: the liver and gall bladder above, the round ligament of the liver and the stomach to the left. The duodenum, the transverse colon and great omentum below. The transverse colon and omentum should be pushed downward, the stomach to the left, and the liver should be held up by the fingers of an assistant. We will then have exposed to full view the gastro-hepatic or lesser omentum, which contains the following structures between its two layers: the portal vein, the hepatic artery, the common, cystic and hepatic ducts, the gastro-duodenalis artery and sometimes vein, the nerve supply of the liver and the lymphatic vessels and several lymphatic glands. The foramen of Winslow is at the right free edge of the lesser omentum. These structures and their relations are well seen after the anterior layer of the lesser omentum has been removed, in Fig. 3. The left index finger can be passed into the foramen of Winslow and the extra-hepatic ducts palpated throughout their extent except the portion of the common duct covered by the pancreas.

It must be understood that as a rule in operations on the living subject that the normal conditions are altered by adhesions and changes in shape and size of the gall bladder and bile ducts, but after the separation of the adhesions the relations will be found practically as here represented.

In closing the incision, silkworm gut sutures should be passed through the entire wall, the margins of the wound approximated, and then before the silkworm gut sutures are tied, the abdominal muscles and aponeuroses are sutured accurately with buried catgut.

I believe that the incision which I here present is based upon good anatomic and surgical grounds and that its adoption will be a step in advance in the surgery of the bile tracts. It makes better work possible by giving freer access to the field of operation; it will enable the surgeon to work more rapidly and in some of the prolonged operations on the bile ducts this is a vital point. It will reduce to a minimum the dangers of hernia after these operations. It can be employed in all cases, in exploration, limited or extensive operations.

The accompanying plates were drawn from my dissections by Dr. J. D. Freeman of the house staff of the Presbyterian Hospital.

BLUE PYOKTANIN IN THE TREATMENT OF INOPERABLE MALIGNANT GROWTHS.

Read before the Georgia Medical Association, April 21, 1897.

BY HENRY R. SLACK, PH.M., M.D.

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There is no disease to which flesh is heir that so appeals to the sympathy of the physician as an inoperable case of cancer. Not even consumption's ghastly form is so dreadful to the patient and to the physician hopeless of results. The sufferer from tuberculosis is almost invariably buoyed up by an ever present but delusive hope that "as soon as I get rid of this heavy cold I will be all right," but the cancer patient is bereft of hope. He sees the vultures, Prometheus like, feeding upon his vitals, but has little hope of Hercules coming to the rescue.

Now, what are we to do in such cases? To dismiss them because we can not promise cures would be inhuman and cowardly. These patients should be *treated* on the same principles as those unfortunate beings afflicted with chronic nephritis, consumption or any other disease recognized as incurable. When the surgeon admits that his knife can promise no hope, he should bring to bear upon the case every other means to make it *yield* to scientfiic treatment. Even though he may not effect a permanent cure, if he can alleviate the excruciating pains, foster hope, and prolonging life make it more tolerable, he performs a duty worthy of his high calling and receives alike the gratitude of the patient and his friends, to say nothing of that highest of rewards, the approval of conscience that comes from a knowledge of duty faithfully discharged.

Since the work of Professor Von Mosetig of Vienna, and Dr. Willy Meyer of New York, with pyoktanin, Dr. Coley, by the inoculation of erysipelas, and Adamkiewicz, by hypodermic application of neurin, we labor "not as those who have no hope."

In January, 1891, Professor Von Mosetig presented a very instructive paper entitled, "A Contribution to the Treatment of Inoperative Malignant Growths," to the Vienna Society of Physicians, reporting on his experience with blue pyoktanin in such cases. Shortly after (April 25, 1891) appeared an article from Dr. Willy Meyer, in the *Medical Record*, "Notes on the Effect of the Anilin Dyes, especially Blue Pyoktanin, in the Treatment of Inoperable Malignant Growths." Dr. Meyer also has another article on the same subject in the *Annals of Surgery* for November, 1893. Here I wish to acknowledge my obligations to Dr. Meyer for kindly furnishing me his valuable reprints and a list of the literature of this subject.

Billroth, true to his instinct as a great surgeon, had little faith in the use of pyoktanin and did not believe it had any specific influence whatever. He asserted that it was merely the water forcibly pressed into the tissues that made them swell and unable to live. He reported that three of his patients got worse under its use and one died of sepsis.

Fortunately, Von Mosetig and Dr. Willy Meyer had better success, and my experience agrees with theirs, as a report of the following cases will show:

Case 1.—October 21, 1896, J. E. C., age 43, white, male, farmer. Father died of cancer. Complains of sore throat and difficulty in swallowing for the last two months. Examination showed a neoplasm the size of a hickorynut on the dorsum of the tongue a little left of the median line. Has warty appearance and the papillæ all around are enlarged and indurated. Tumor can be felt from outside and submaxillary glands indurated.

October 24. Tumor growing. Pain extends further down throat and deglutition more difficult. Treated with Lugol's solution and gave gargle of same containing 2 m. carbolic acid to the ounce.

November 14. Tumor getting larger, covered with a mucopus and becoming more painful, especially at night. Necessary to use morphin in order to sleep.

November 19. Complains that he could not sleep last night, as it seemed he would choke to death. Iodin doing no good, ordered blue pyoktanin pencil and powder. Dr. F. M. Ridley saw the case in consultation. Decided inoperable and approved of the trial of pyoktanin.

December 8. Patient has been to Atlanta and consulted six surgeons of that city, including two ex-presidents of this Association, one of whom he heard remark, "It is cancer. Prognosis bad; not one chance in a hundred from operation and he will not live until New Year." Necrosis has begun, odor very offensive. The tumor now is as large as a hen's egg and very painful. Can hardly use tongue enough to articulate his words. Treatment: Parenchymatous injection of 1.5 c.c. of a 2 per cent. solution of blue pyoktanin and gave patient pencil to apply daily.

December 12. Patient says he has not suffered so much as before using paint and can talk a little plainer. Treatment: Injection of 1.5 c.c.

December 19. Has suffered very little pain. Can talk without difficulty. Necrobiosis has set in and the tumor has diminished considerably. Injected 1.5 c.c.

December 22. Patient improving. Small nodules beginning to drop off and under them granulating surfaces appear. Reduced about one-fourth. Injected 1.5 c.c.

December 27. Feels much better. Does not have to use morphin at all. Injected 1.5 c.c.

Jan. 2, 1897. Improvement continues. Tumor not one-half as large as when I began parenchymatous injections. Injected 1.5 c.c.

January 9. Patient feels much relieved. Cachexia nearly all gone. Fetid odor no longer present. Appetite returning and anxious to try solid food, which was allowed. Injected.

January 12. Tumor has reduced to less than one-fourth of the original size. Patient eats solids and swallows without difficulty. Color good and strength rapidly returning. Injected.

January 16. Improvement continues. Injected.

January 23. Feels no inconvenience from neoplasm, which is not now over one-sixth of the original size. Says, "I am about well now." From then until February 28 he received only one injection weekly. I was called to New Orleans and was absent two weeks, during which time the patient took cold and I found on my return that the neoplasm had grown some. Gave two injections weekly and necrobiosis at once began.

April 17. Tumor diminishing in size, though somewhat painful. Pain was relieved by injection of the pyoktanin solution. June 15. Still under treatment and doing well.

Case 2.—Jan. 23, 1897. R. H., age 37, colored, female. Has had seven children, no miscarriages. Family history negative. Now has a four months' baby and since birth of this child lochia has continued. During last four months of last pregnancy had occasional hemorrhages. Patient fairly well nourished, though much weaker than after birth of other children. Prescribed injection of bichlorid of mercury, 1 to 4000, aromatic sulphuric acid and elixir calisaya, as an astridgent tonic, and told her to return in a week prepared for an examination.

February 3. Patient says, "Do not bleed so much, but still have bad smelling discharge." Examination showed a large ulcerated cauliflower neoplasm enveloping the entire cervix and extending well up the posterior portion of the body of the uterus. It was as large as a small orange and bled freely when touched. Dr. Cason saw case with me and agreed that it was an inoperable carcinoma.

Treatment: Washed out vagina and washed off the neoplasm with solution of bichlorid of mercury, 1 to 2000, and gave parenchymatous injection of 2 c.c. of a 2 per cent. solution of pyoktanin. I also gave the patient wash of bichlorid of mercury to be used daily, after which she uses 6 c.c. of 1 per cent. solution pyoktanin.

February 9. All hemorrhage has ceased and patient feels better. Injected 2 c.c.

February 12. Discharge not so offensive as before; pain has diminished. Injected 2 c.c.

February 16. Improving; necrobiosis established and nodules are supported by smaller peduncles. Injected.

February 19. Improvement continues. Injected.

February 23. Patient says when she injects the bichlorid of mercury wash, small pieces of flesh from the size of rice to a pea are washed out. While treating, a nodule size of a large pea dropped off. Surface presents healthier appearance.

I have continued parenchymatous injections of 2 c.c. of the pyoktanin twice a week ever since. During my absence Dr. Cason kindly continued treatment and has since seen it several times. The size of the tumor is steadily diminishing and the patient now (April 17) suffers absolutely no inconvenience.

Case 5.—April 6, 1897. Mrs. S. A. J., age 47, white. Had eight children, youngest 3 years. Family history negative. First trouble occurred when nursing last child. Three years ago noticed lump in right breast, size of a marble, that grew steadily; breast was removed in May, 1895, and all healed up but a little place the size of a pea, but this remained hard and in October began to ulcerate. Poorly nourished woman with recurrent cancer of right breast; open, ulcerating wound, 10 cm. long by 3.5 cm. wide, eroded edges; erosions being in some place 2 cm. deep. The whole wound is covered with necrotic tissue and the cavities filled with a fetid, cancerous secretion. The glands of the axillary region are indurated; painful and cancerous nodules depend from the wound near the axilla; the induration extends up to the clavicle and patient complains of pain in neck and on moving arm.

Treatment: Cleansed wound out thoroughly with hydrogen peroxid and then bichlorid of mereury; gave parenchymatous injection of 2 c.c. of the 2 per cent. solution pyoktanin and then dusted the wound over thoroughly with a 2 per cent. powder.

April 10. Has not suffered so much since using paint and sleeps better. Treated.

April 13. Rests easier now and has better use of arm. Treated.

April 17. Complains of some pain, but after the injection this disappeared. There is softening in the injected area and general appearance of wound and patient has improved. June 15. Still under treatment and improving steadily.

I have two other patients under treatment; one carcinoma of the uterus and the other of the breast; both are improving. There seems to be a reasonable probability of the ulcerating uterus healing, at least the improvement since I began treatment with pyoktanin (March 15) is marked.

A word as to the technique of the treatment, which

varies with the location. The injection should be made under strict aseptic and antiseptic precautions. The skin where the needle is to enter should be thoroughly cleansed with bichlorid solution. The needles may be long, short or curved, but must not be of too small caliber and should be boiled after using.

I used the large hypodermic syringe and injected from 1 to 2 c.c. of a 2 per cent. solution. This is more than twice as strong as recommended by Drs. Meyer and von Mosetig. The patient is given the pyoktanin pencil, 1 per cent. solution or a 2 per cent. powder, as the case may require, to apply daily.

Thus far I have seen no untoward effects from its use. I always employ Merck's because I can rely on its purity. The only objection to it is that it stains everything with which it comes in contact, but what is the soiling of linen when compared with the following advantages? 1, its analgesic effects are marked, as patients soon rest easily without the aid of morphin; 2, "the improvement of the function of the part involved." The man who could hardly speak so as to be understood talked without difficulty after the third injection; 3, the improvement in general health which has taken place in all five of my cases; 4, the element of hope that is added to the life of suffering man, brightening the remainder of his sojourn.

While I do not claim to have cured my patients, still I have relieved their pain and rendered them less burdensome to themselves and their friends. I agree with Dr. Meyer in von Mosetig's conclusions, "that it has been proved by practice, that parenchymatous injections of inoperable malignant growths with pyoktanin can produce disappearance of malignant tissue, though in exceptional cases, and can heal neoplastic ulcerations."

Pyoktanin, when properly used, is certainly a palliative treatment for cancer that deserves an honest, hopeful trial, for by its use many have been relieved and some cured.

LITHOLAPAXY.

SUCCESSFUL REMOVAL FROM THE BLADDER OF A GIRL OF SIXTEEN OF A CROCHET NEEDLE THREE INCHES LONG, IMBEDDED IN A MASS OF URIC ACID AND LIME PHOSPHATE.

Read by title at the meeting of the American Surgical Association, held at Washington, D. C., May 4, 1897.

BY W. S. FORBES, M.D.

PROFESSOR OF ANATOMY, JEFFERSON MEDICAL COLLEGE; CLINICAL SURGEON TO JEFFERSON MEDICAL COLLEGE HOSPITAL.

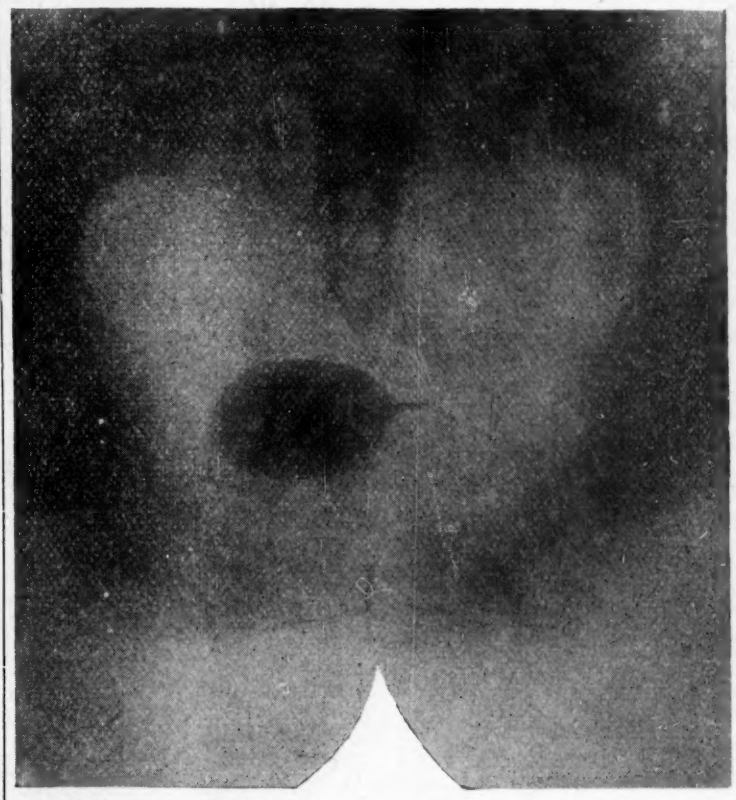
PHILADELPHIA, PA.

I am indebted to my friend, Dr. C. C. Moyer of Hartleton, Pa., for this patient, a girl 16 years old, short in stature, light in weight and delicate-looking. She had been suffering from severe vesical trouble for fourteen months. Dr. Moyer said he had sounded her bladder and discovered a large vesical calculus. On the 30th of March last, I placed her in the Jefferson College Hospital. On examination there was no difficulty in confirming Dr. Moyer's statement.

Recalling that the relative frequency of stone in the bladder of men to women is as four to one, a fact due, no doubt, to the ease with which an ordinary nucleus can escape from the short and easily dilated urethra of the female, I expressed my surprise at finding so large a calculus in so young a girl. Dr. Moyer had asked her if at some time something could not have slipped into her bladder, but the answer was "no, never."

Remembering my patient with a willow twig seven inches long which I successfully removed from the bladder (see JOURNAL AMERICAN MEDICAL ASSOCIATION, Nov. 28, 1896), I stated my belief that, notwithstanding the denial of the girl, the nucleus of this large stone was most probably a foreign body that had "slipped" into the bladder through the urethra.

On Friday the 9th of April the patient, having been etherized, was brought into the operating room of the hospital, and before a large class of students and physicians the urethra was dilated; introducing my finger into the bladder, the stone was found to be a flattened oval, lodged transversely in the bas-fond. I then introduced a No. 23 Forbes lithotrite, and grasping the stone I attempted to lift it from its position in order to crush it, when it was found to have its poles firmly imbedded in the side walls of the bladder. Several times I seized the stone and endeavored to disengage it from its position, but could not do so without endangering the walls of the bladder.



Skiagraph showing the protrusion of a crochet needle from the calculus in situ.

It was now manifest that if I opened the bladder above the pubes I would still have to divide that stone before I could safely remove its poles from their mortised position in the bladder walls. I therefore decided to operate through the urethra and attempt to crush the mass near its middle and then withdraw each extremity from its mortised position in the bladder wall. This I found was no easy matter.

The blades of my lithotrite were finally adjusted from above on the stone near its middle. In screwing down the male blade the resistance was great and my sense of touch informed me that there was something more resisting than the stone. The impression conveyed was that the mass was becoming more and more condensed as I screwed down the blade. At last, after great resistance, the division was accomplished and the lithotrite withdrawn. On introducing my finger several small fragments of stone were felt loose in the bladder, but the two poles were still in their original position.

The bladder was now washed out and the loose fragments removed by means of a large canula and the evacuator. In placing my finger again in the bladder I found it had contracted and that the fissured surfaces of the mass were in juxtaposition; finding, however, that I could depress the right fragment below the plane of its neighbor, I introduced a female catheter beneath my finger which was still in the bladder, and depressing the fragment on the right side of the bladder, with my finger nail I dislodged the left fragment from its mortise and brought its pole around to and through the external meatus of the urethra. It proved to be the white pointed extremity of a foreign body. I then seized it with a strong pair of dressing forceps, but could not withdraw it on account of a large piece of calcareous matter, which projected from its side like the fluke of an anchor. This I broke off with the forceps, and then withdrew easily a part of foreign body, which was found to be the extremity of a crochet needle. One large piece still remained in the original position on the right side of the bladder; I dislodged it with my finger and broke it up with a pair of forceps.

In bringing out one large piece of the crochet needle on which there was a projecting piece of encrustation, the external meatus of the urethra was divided to a very slight extent with a bistoury.

The bladder was then well washed out with a warm borated solution and the patient was carried to her bed.

Much of the débris from the crushed calculus was lost during the operation. I should say at least one-half of it, that collected, weighed 315 grains. The crochet needle was broken into seven fragments.

The patient was under ether one hour and twenty-five minutes. She was walking about the ward of the hospital on the fifth day, and went home perfectly well on the seventh day after the operation.

I have now operated by this method twenty-seven times, in patients from 4 to 82 years of age. In three of these cases, aged from 60 to 70, death followed the operation from suppression of urine.

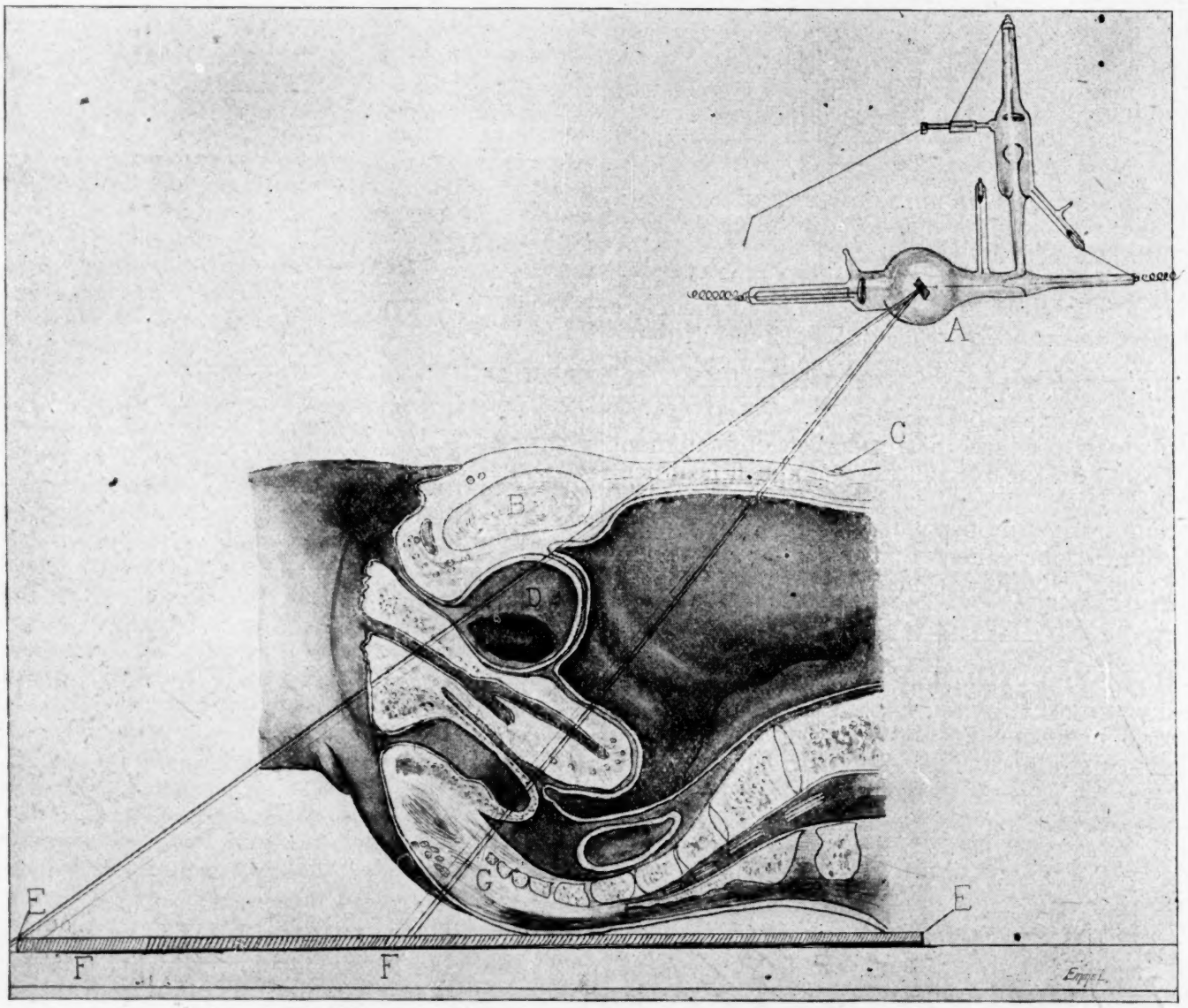


Diagram showing the relation of the X-ray tube and focus-point so arranged as to secure the shadow of the bladder contents upon the photographic plate in an area not having any bone shadow. A, platinum plate from which the rays are being given off; B, os pubis; C, umbilicus; D, bladder showing contained stone; E E, X-ray plate (photographic plate) upon which between the points, F F, the shadow of the stone is projected through the floor of the pelvis in a field free from any bony obstruction; G, tip of coccyx.

The accompanying skiagraph was taken the day before the operation by Professor Coplin. It is interesting to note the manner in which the exposure to the X-rays was made. By placing the patient in a supine position and arranging the Crooke's tube in the manner shown in the diagrammatic sketch, the rays are given such obliquity that they pass through the pelvis without meeting any bony obstruction, escaping above the os pubis (B) and below the tip of the coccyx (G).

901 Pine Street.

SURGERY ONE HUNDRED YEARS AGO.

AN HISTORICAL STUDY

BY DR. GEORGE FISCHER.

DEDICATED TO THE GERMAN SURGICAL ASSOCIATION.

TRANSLATED FOR THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION BY CARL H. VON KLEIN, A.M., M.D.

(*Continued from page 1187.*)

VIII.—PROFESSORS OF SURGERY AND PRACTICAL SURGEONS (WUNDAERZTE).

Van Swieten's reforms; Joseph II and Maria Theresa; The Medico-Surgical Josephsakademie at Vienna; Masters and Doctors of Surgery; Institute for surgical operations; Austrian surgeons: Brambilla, Leber, Plenk, Steidele, Hunczovsky, Mohrenheim, Wrabetz and others; C. C. von Siebold; J. B. von Siebold, Brünninghausen, Hesselbach; Henckel, A. F. Pallas, Zenker; Loder, Köhler; Arnemann, Wardenburg, Michaelis; Rougemont, Isenflamm, Weidmann, Metzger, Sommer, Löber, Sprengel, E. Platner; The practitioners Thilenius, Brückner, Ehrlich, Eckoldt, A. F. Vogel, Schneider, Jäger, Fielitz, Böttcher, Bernstein and others; The oculists Barth, Schmidt, Beer, Lobstein, Hellman and others.

"Ten ducats to the Vienna Medical Faculty, that they may dine in pleasant memory of their deceased colleague," was the last direction of Dr. Franz Emerich of Troppau, the first professor of surgery appointed in *Austria* (1537). In 1555 the imperial government commissioned the medical faculty to institute surgical lectures, to which they replied in the German language as follows: "That such a course was conducted with great diligence in all universities in foreign countries and were stipendiary, and although in the German universities it was not actually customary, yet such a course is given in this university by a doctor of our faculty (Emerich), for which he is paid 52 florins. For the reason that surgery must unavoidably involve the health of people, it is necessary that our surgeons be instructed in anatomy, which properly belongs to the professor of surgery. Much attention is given to the dislocation of limbs, to cauteries, to tortures, and to all kinds of good and useful plasters, which operations and explications belong to a surgeon. Therefore we regard such a course as fitting, useful and necessary." (Hyrtl, Vergangenheit und Gegenwart des Museums für menschliche Anatomie a. d. Wiener Universität, 1869, p. 14.)

We can safely pass over two hundred years, during which period science in Austria was enveloped in darkness. Even in the first half of the eighteenth century, when at small, north-German universities certain great teachers had awakened medicine to active life, Vienna still lay in deep slumber. With *Gerhard van Swieten* there came, not only in the medical faculty, but also in the spirit of all instruction, a time of thorough-going reforms. The university was obliged to submit to a complete revolutionizing of its constitution; it lost its hitherto so carefully guarded anatomy and was from that time on no longer ruled by an self-elective consistory, but only by the will of the empress. The state seized its property, assumed the conduct of its finances and thereby extinguished the last spark of its corporate life. Only the external form remained; the university had become a state institution. For that which had been taken from it the empress gave it a new building, with adequate rooms for the faculties of medicine and jurisprudence (1756). Men quite independent of the faculties were placed at their head and they specified the substance and import of the public lectures. They were under the chancellor of the empress, and with him as chairman composed the academic court commission, afterward so lamentably degenerated, which reported directly to the monarch. The strong and unbending will of the court physician, van Swieten, who, loaded with favors, possessed the unbounded confidence of Maria Theresa, was the soul of these reforms. In his high place, and as a foreigner, he did not concern himself with Austrian traditions, and he was easily prepared for all the obstacles which he encountered. Austria honors him as the bold creator of a new era in medicine, which raised the Vienna school to a height never before anticipated.

While medicine was greatly enriched by him, and by de Haën, Störk and Stoll, surgery "went begging." The Vienna surgeons were without any scientific training or thorough education, and could not be compared with physicians by whom they were deposed. By reason of their close connection with the bath-keepers, a change for the better was hardly possible with them. The barber shop still remained their highest ambition. Van Swieten's regulations were scarcely able to help surgery much. In 1779 he elevated *Joseph Jaus*, who had at first been appointed demonstrator in the anatomic amphitheater, to the professorship of anatomy and surgery. In the summer Jaus gave lectures on theorectical and practical surgery, instruments and bandaging, and entrusted the teaching of anatomy to a young docent, Gasser, whose name has been immortalized by the Gasserian ganglion. Men of real culture, who devoted themselves to surgery, were quite isolated. The war between Austria and Prussia made the lack of good surgeons sorely felt. French surgeons were appointed in both armies, until finally the necessity in Austria became so great that Emperor Joseph resolved upon the founding of a medico-surgical academy for the better training of surgeons.

Joseph II. was a prince who, in spite of his many-sided knowledge and his keen understanding, was yet a theorist. Sanguine in undertaking, tirelessly active and ardent, he was often inconstant in execution, and in his youthful enthusiasm he would carry everything by storm. The emperor experimented much in all humane projects and all effort in behalf of townsman and peasant, undertook the most difficult things without consideration, and gave them up just as readily. He possessed, in common with Frederick the Great, a simple, homely mien, and, like him, enjoyed the worshipful veneration of the people, in spite of which they both suffered discontent in their old age. In his last years, Joseph complained that with all his care and patience he could accomplish nothing because most of his officers did not comprehend his plans and intentions, and when he died, in 1790, his last words contained the melancholy burden that he had seen all his undertakings wrecked.

If the two German princes, Joseph and Frederick, be compared with each other as statesmen, the result is to the advantage of the latter; to physicians the figure of the Emperor is more attractive. He extended to our science and to our profession far more sympathy than did the Prussian king. If, in Joseph's liberality and humanity there was concealed a good share of despotism and absolutism, yet in that he was only consistent with his century. The subject of public health lay close to his heart, and also to that of his mother, *Maria Theresa*, with whom he became joint ruler in 1765. The empress had given the kingdom of Bohemia (1753) a medical ordinance in which

all country, district and city physicians, doctors, medicinæ practici, surgeons, apothecaries, bathers, oculists, rupture surgeons, lithotomists and obstetricians must conform. Then followed (1770) detailed sanitary regulations for all hereditary estates, according to which sanitary commissions were everywhere instituted, to which all persons practicing medicine were subordinated. Let us notice certain "court resolutions" of both monarchs. The empress forbade young people to apply themselves too early to hard work, that growth might not be checked nor bodily injury be sustained; and in severe winter weather children in the country, from 8 to 10 years old, were obliged to attend school. She forbade entirely severe corporal punishment of school children, as "using a rawhide, dangerous slavish rude blows, boxing their ears, striking or beating them with the fist, pulling their hair or ears;" only the rod was permitted, and a very moderate use of that, so they should not be disgraced. Joseph hated the corset and ordered that no girl with a bodice be received in school, because this garment was detrimental to growth; he banished it from all monasteries and schools for girls. Dancing was put under police supervision; Maria Theresa had already forbidden waltzing in Bohemia, as injurious to the health and dangerous to morality. The magistrate in Basel later shared this view. Various sanitary police regulations for public intercourse were devised. Maria Theresa restrained pregnant women from going on the streets, because of the crowding there, and for the same reason would not allow roving beggars, who were frightfully crippled or deformed, in the alleys. The emperor ordered that in summer, on account of the dust, the streets of Vienna be sprinkled, and had communities build morgues in which the dead were kept till burial, which, just as in case of dissection, was not allowed till forty-eight hours after death. He also abolished the custom of entombing bodies in the Vienna churches and had them taken at night to the churchyards in the suburbs. His suggestion to bury them in a cloth sewed into a sack, and nothing further, met with no approval. General Potrosch, out of respect for his emperor, had himself buried in that way. The friars were admonished not to destroy their health through the loud singing of choruses. He ordered the strictest secrecy in the lying-in hospitals and removed the stain of illegitimate birth in all classes. His mother abolished torture, he, the death penalty, though he was obliged to restore the latter because of the increase of crime. We have mentioned that in Joseph's reign, any Protestant or Jew could for the first time become a doctor and that he made German the official language for lectures. The name of the emperor is indelibly associated with his benevolent institutions: The General Hospital, the Military Hospital in Vienna, the Foundling Hospital, the Deaf and Dumb Institute, the Medico-Surgical Academy and also various valuable collections and libraries which he bought.

The emperor showed a great partiality for surgery, although he had frequently been subjected to the surgical knife. Near the beginning of his reign he was operated on for a tumor on the head, while he often had hemorrhoids cut away, and six months before his death had an operation for a rectal abscess and fistula. Besides the ills mentioned, he suffered for a long time from his eyes. He from the first visited the hospitals frequently, rectified the mistakes which he discovered, and in spite of all dissuasion, could not be deterred from endangering his life in the infected places. When the General Hospital was established, scarcely a week went by in which the emperor did not go through the wards and inquire closely into everything. He sometimes even discussed medical matters with the physicians in Latin. In Paris, whither he journeyed to visit his sister, Marie Antoinette, he inspected the hospitals as well as the academies and collections. On the journey there he went out of his way to see A. von Haller in Berne, in doing which he took no notice of Voltaire. He found the great scholar very weak, and when soon after his return to Vienna he sent him a quantity of wine and Peruvian bark, von Haller had died a few days before.

Joseph II. was the first German prince who took any interest in surgery, and rightly comprehended that its advance could only come to pass by uniting it with medicine. The honor of freeing from the bonds of slavery the science so long despised in Austria is unquestionably his. Like medicine, it should be a free art, and no longer a trade. On that account the emperor released the surgeons from the restraints of the guilds and the barber shops, so that one who had learned surgery thoroughly could practice it without belonging to a guild. To combine the study of the two sciences, he himself (1786) outlined a common course for physicians and surgeons. In the first semester he placed anatomy and chemistry, in the second general and special surgery and botany, and throughout the entire year special natural history; in the second year, physiology, higher anatomy, operations, instruments, bandaging and obstetrics; in the third year, pathology and materia medica; in the fourth year, medical and surgical instruction by the sick beds, with practical work in the lying-in hospital and in the General Hospital. Besides, a course was given for country surgeons who, on account of less complete education, could not take part in the above course of study. From that time on, whoever wished to become a doctor of medicine must attend the surgical lectures.

To the emperor, no amount of money was too great to be used in training skilful physicians and surgeons for his empire. A year after the founding of the General Hospital, the *medical and surgical Joseph's academy in Vienna* was established. It was the first institution in Austria in which surgery was thoroughly taught. It grew out of the medical and surgical school which Joseph had founded soon after his mother's death, upon the suggestion of Brambilla, in the military hospital at Gumpendorf (1781). In this institution were gathered thirty over-surgeons for two years' study, and they were divided, according to their attainments, into two classes. From the first the regimental surgeons were chosen; from the second, the district and county surgeons for the provinces. At the close of their studies thirty others were called, and as a general rule, no army surgeons were appointed who had not finished this course.

When the institution proved itself worthy, it was enlarged into the Academia caes. reg. Josephiva Medico-chirurgica Vindob., as Joseph said in its charter, "in order to express our especial regard for that part of the nation who expose their lives to every danger for the defense of the common fatherland, for the rights of our throne and the safety of their fellow citizens, and to contribute to lighten their honorable but burdensome duties." On Nov. 11, 1785, the inauguration took place. Field marshals, generals, ministers and professors, the medical faculties, offi-

cers, regimental surgeons, two hundred uniformed students—in short, about six hundred persons, gathered to hear the Latin address of the court surgeon, Alexander von Brambilla. After the ceremonies he presented, in the name of the emperor, to the five newly installed professors, Hunczovsky, Böcking, Streitt, Gabriely and Plenk, and to the staff surgeons, Göpfert and Beinl, a gold medal of the weight of forty ducats. The building of the academy, an open square with two stories, was one of the most beautiful in Vienna, and was adorned with many exquisite statues. Everywhere there was the greatest luxury. Six hundred cases of instruments and 250 of medicines were ready whenever war might break out. Besides mathematical and physical instruments, they had a large collection of anatomic and pathologic specimens, among them sixty-four of the rarest surgical diseases, which Hunczovsky had prepared from nature, in wax. In addition, there was the previously mentioned celebrated collection of wax specimens from Florence, which were kept in 300 gilded caskets of rosewood and Venetian plate glass. In cases of red leather, with gilt shields and clasps, were their instruments and bandages. The library, which was opened daily, contained 10,000 volumes; the hall of the amphitheater accommodated 600 persons. Two hundred students were received in the academy, and lived there with the professors. Each of the professors had six rooms, in two stories, with furniture, and stabling for two horses, and received a salary of 1,250 florins. Close behind the building, the emperor had erected a large military hospital for 1,200 patients, in order to combine theoretic and practical instruction. Alexander von Brambilla was director, and as such stood immediately under the monarch and gave the academy its statutes. Hunczovsky was vice-director and Plenk permanent secretary. The members were at first Gabriely, Streitt, Böcking, Göpfert, Anton von Brambilla, Jennat, Prochaska, Scarpa, Stahly; the foreign members were Anton Louis, von Kelchen, Malacarne and Cruiskschank. The academy divided its members into three classes: Active, thirty; associate, twenty; corresponding, twenty. They taught anatomy and physiology, surgical pathology, operations, instruments, bandaging, legal surgery, obstetrics, practical medicine and materia medica, besides chemistry, botany, geometry and physics. Each course lasted a half-year; at its close, medals worth five and ten florins were distributed. Prizes of gold medals were offered for treatment of specified questions. Among those for the first year were the following: Which, cut or torn wounds, should be healed by joining together, which by suppuration? What is the best and safest method of healing gunshot wounds? What causes can make a slight wound from a sharp or a dull instrument dangerous or fatal? Besides these inducements for the young men, the most important means to place surgery in the same rank as medicine, was the right given to the academy of conferring the degree of *Master and Doctor of Surgery.* With privileges in every way equal to the physicians, the surgeons could practice their profession anywhere in the empire. This right the Academy had in advance of the medical faculties, for according to an earlier ordinance, they could graduate only six doctors of medicine a year. Whoever wished to become a Master must attend the Academy two years, practice four years in the hospitals, and finally pass a theoretic and practical examination. The same training was required of the doctor of surgery, only he must practice in the hospitals six years. He must pass three examinations, the first in the sciences previously mentioned; then he must perform in public upon a cadaver an operation drawn by lot from a number specified by the professor, and must himself select the instruments for it. To this was added an examination concerning the indications and after-treatment of operations, and an anatomic demonstration. In the doctor's oath, he swore, among other things, to have weak newborn children immediately baptized, or baptize them himself, to produce no abortions, to employ no heroic remedies, such as arsenic preparations, to accept no money or gifts from apothecaries and to sell no antidotes or medicines. The fees for the degree of Doctor of Surgery amounted to 24 florins, for that of Master of Surgery to 12 florins, but they were abated for one without means, but having extraordinary talents. To the Latin diplomas, printed upon parchment, a seal was attached by a yellow and black cord; those for the Masters in wooden cases, for the Doctors in metal. The name Feldscher was abolished, under penalty. At the inauguration of the academy, the emperor conferred the degree of Doctor of Surgery upon Brambilla, Hunczovsky, Plenk and Göpfert, and gave the title without charge to all professors of surgery who were not already doctors. From that time on, only those military physicians who were Doctors or Masters were advanced. Older men suffered thereby, and one battalion surgeon shot himself (1788) and ascribed his suicide to Brambilla: "Only because the world scorned me do I do this deed. . . . Since Brambilla, by whom all these persecutions come, treats all men grown gray in the service of the master so finely. I advise all honorable men to be anything but a surgeon in the imperial army." Soon the new academic degree found a willing reception in other lands; but there were abuses connected with it.

Brambilla's inaugural address caused much bad feeling among the physicians. He extolled the superiority of surgery over medicine, decried the merits of the latter in an unjust way, and did not indicate that he wished to unite the two sciences. The doctors felt their dignity deeply wounded, thought they had not deserved such humiliations, and saw in advance how the doctor's title would turn the heads of the Vienna surgeons. It was not long till Brambilla was decried as the oppressor of medicine in Austria. Much greater was the joy in the camp of German surgeons, who greeted Brambilla as the restorer of the surgical profession in the Austrian states. A. G. Richter was quite enraptured over the establishment of a surgical academy in the fatherland. "All Germany," he said, "takes a certain part in the honor of this academy, in the successful advancement of its labors, in the choice of its members, since it is from them that the surgery of Germany will expect guidance, direction and enlightenment; according to the successful or unsuccessful outcome of their labors, will foreigners judge of the value of all German surgery; among them one will always seek the most renowned surgeons of Germany; to their proceedings we will look for the most important productions in German surgery." Richter deceived himself completely. *The Medico-Surgical Joseph's Academy contributed to raise the standard of surgical instruction and the position of surgeons, but it did nothing for the advancement of surgical science in Germany.* How was that possible when

the emperor had built the most magnificent institution, and had done more to elevate surgery than any prince before him, indeed, as an exuberant hymn says, more in six years than the kings of France had done in four hundred years? For the most part it lay in the fact that Joseph II, in the choice of Brambilla, a wholly incapable Italian, had made a far-reaching mistake. From now on progress was slow; the academy published its first volume of memoirs in the year 1787, and the second in 1801. With that it ceased! and what it offered was insignificant! Let one read the preface to the first volume and compare it with that of the memoirs of the Académie de Chirurgie in Paris, which was founded forty years earlier, in order to know the spirit which pervaded the Vienna institution. Brambilla first inquired into the age of surgery as compared to that of medicine, over which useless questions others were then worrying themselves; he began with Adam, the umbilical cord of whose children must have been cut, quoted further from the books of Moses, and discovered in Tubal Cain the first maker of surgical instruments. Even Christ was adduced, because he never employed internal remedies for the sick, but always surgical methods. Examples from Homer and Virgil were produced. Brambilla then showed the superiority of surgery over medicine, and finally burned incense to the Emperor Joseph.

Brambilla's weak policy soon showed itself. When shortly afterward the war with the Turks broke out, he ordered (he was at the same time surgeon-general of the army) that no physician who was not also a surgeon would be allowed to accompany the army; all matters were to be looked after by his medico-surgeons. There was loud and general complaint against this order. Even the aged Haudegen Laudon begged the emperor to appoint physicians to serve in the field-hospitals in the future as had formerly been done. But no change was made. The disatisfaction grew, until finally Emperor Leopold (1795) deprived Brambilla of his office as surgeon-general, abolished the office, and committed the management of Joseph's Academy to a permanent military health commissioner. A chief military physician (Professor Mederer, of Freiburg) was appointed director of the personel of the army physicians, with a salary of 3,000 florins.

In the beginning of this century a *Royal Imperial Institute for Surgical Operators*, was established (1807) for the advancement of surgery in Vienna. From those who had taken the two years public course of instruction, and distinguished themselves, six students without means, were chosen, to be trained as operators in this institution, under the private instruction of Professor Kern. The course lasted two years; in the second half the students were obliged to perform every operation publicly upon the patients. They received 300 florins a year and were preferred for public appointments.

Austria can lay no claim to honor for her surgeons of the last century. Almost everywhere obsolete opinions and orthodox views prevailed, and there was nothing to give a new impetus to science. Surgery slept until Rokitansky and Skoda came. Let us give the court physicians precedence.

Alexander von Brambilla (1728–1800), born in Pavia, lord of the barony of Carpiano in Austrian Lombardy, Associate of the Paris Académie de Chirurgie, filled the highest positions in the state, but was nevertheless destitute of all scientific culture, even priding himself upon that fact. Himself a crude empiric, he would have nothing to do with theoretical knowledge because it was of no avail at the bedside. He comforted himself and others with the fact that great scholars had often declared patients incurable, who were afterward restored to health by physicians who were considered ignorant but who were practically skilful. His writings, disgustingly detailed, unintelligible, without order, containing nothing useful, and above all, full of boasting, are no longer read. These qualities characterize particularly his two-volume work on phlegmons, which had been translated from the Italian into a jargon of German. In the first volume of the proceedings of the academy, he presented some worthless articles on white swellings and lead colic; in another confused essay he contended against the abuse of oxycrates and dry lint. In operations for fistula of the anus he prescribed special instruments, which, however, found no acceptance. Besides, he composed various rules for the Austrian field surgeons.

(To be continued.)

SOCIETY PROCEEDINGS.

Medical Society of the State of Pennsylvania.

Minutes of the Forty-seventh Annual Session.

The meeting was called to order at 9:30 A.M. Tuesday, May 18, at the Alvin Theater, Pittsburg, by Dr. E. E. MONTGOMERY of Philadelphia, the President.

The address of welcome was delivered by T. DAVIS, Chairman of the Committee of Arrangements. The Secretary reported a steady improvement throughout the State among the County Medical Societies, so that the number of physicians in affiliation with the State body was much increased over the previous year. No new societies had been added nor had any fallen into decadence. There were now over 3,000 members of county societies.

In regard to the matter of synthetic preparations, the payment in the United States of such large excess for these articles over what is paid in Canada, in some twice and three times the amount required in Canada, the committee submitted the following:

Resolved, That we recognize in the contract existing between Messrs. Dickinson, Brown & Co., and the German government that the sale of many of the alkaloids is in our consideration a monopoly and neither in accordance with our Code of Ethics, nor humane; because the effect it has in making the price of such drugs so high as to be beyond the reach of the suffering, therefore be it

Resolved, That we refer the matter to the consideration of the AMERICAN MEDICAL ASSOCIATION with the request that that body use its influence to secure the repeal of all legislation recognizing such laws as will give any parties exclusive control over such drugs.

The resolution was unanimously adopted.

The Committee on Rush Monument reported little progress, and slight additions to that fund.

The Committee on Pharmacy reported: The main interest of the year centered in antitoxins; proof exists that these are of great value; Dr. Koch's new tuberculin was mentioned as of very great value; creosote is being further employed externally in fevers; it shortens the paroxysm and lessens the severity, does not depress the heart; there is urgent need of a form of this drug which will be better borne by the stomach; esote has been proposed by a Berlin manufacturer, a creosote valerianate, without toxic or caustic powers, odorless and tasteless, well borne even in large doses, and inexpensive. Bromoform for whooping-cough seems of positive value. Its use is better understood, and prejudice is disappearing; it is best administered in water, with care that the whole dose is swallowed, as its specific gravity causes it to sink to the bottom of the vehicle; generally, prompt in action, and flavor agreeable. Eucain, a rival of cocain, a local anesthetic, less toxic, and with no effect on the pupil. A 5 per cent. solution renders the eye sufficiently insensitive to operation. Also used in dentistry and laryngology with satisfaction. It is said to be fully equal

to cocain but causes local hyperemia, but the latter causes anemia; doubtlessly it will supplant the other. Bromid of strontium has grown in favor. Severe epilepsies have shown better results with this remedy, it is acceptable to the stomach and does not interfere with appetite. Formaldehyde, a new antiseptic, is worthy of notice; non-irritating, non-toxic, general antiseptic for wounds, abscesses, and for clothing disinfection of rooms. etc., better than sulphur; applied in vapor or solution; in surgery ¼ to ½ per cent. solution; for general antisepsis, ½ to 2 per cent. or in vapor; for sterilizing and hardening catgut so that it may be boiled without injury, 4 per cent. Generators in form of lamps are sold; a solution called formalin, containing 40 per cent. formaldehyde is made. It is used for a numer of skin diseases, soft chancre, and in 1 to 5 per cent. solution in acute, chronic gonorrheal and tubercular cystitis. Thyroid extract is said to be indicated in operative and spontaneous myxedema, obesity, non-cystic goiters, some mental diseases; it is exceptionally advantageous in special cases of exophthalmic goiter, but caution is necessary; also successful in some chronic affections of the skin, particularly psoriasis; in any event recurrences are frequent.

Thyroid-iodin from the thyroid of the sheep cantains 9.3 per cent. iodin and 0.5 of phosphorus, its action is said to be similar to the regular thyroid extract. Tannoform is a condensation product of tannic acid and formic aldehyde. Its advantages are tastelessness, non-irritating when applied to the intestine without undergoing any change. It is a useful intestinal antiseptic and astringent in infantile diarrhea. Externally the antiseptic and drying effects are marked without irritation of the skin. Useful in numerous affections of the skin, as hyperidrosis of the palms and soles, indolent and infectious ulcers, ulcerated lupus, impetigo, eczema, etc. The proper attidude of the profession to the manufacturing pharmacist is still a subject of dispute. While the physician should be the foe of everything that smacks of ignorance, mystery or charlatanism, and the champion of candid, honest and humane therapeutics, there are many worthy men who believe that to the persevering efforts of the conscientious manufacturing pharmacist are due the great improvement made during the last score of years in the reliability and palatability of our remedies. The difficulty is to separate the wheat from the chaff which is offered the profession; and while we would denounce imposters whether manufacturing at wholesale or selling at retail, we would urge a careful discrimination in our denunciation, and while advising a more general use by the profession of the United States Pharmacopeia and the National Formulary as their guides in the selection of remedies where it is to the equal advantage of their patients, yet we believe it is proper and in accord with the ethics to use any remedy which may cure provided there is satisfactory evidence of candor, reliability and honesty in the manufacturer, and that there are such manufacturers it would be neither fair nor just to deny.

A resolution was adopted by unanimous vote asking the legislature to maintain the present law requiring vaccination as a prerequisite to admission to the public schools.

At the afternoon session the

ADDRESS IN SURGERY

was delivered by Dr. J. CHALMERS DACOSTA of Philadelphia. He reviewed recent changes. He selected certain changes as all would be a herculean task. Every change is not improvement. Mankind is apt to fall a prey to "pestilential novelty." Great discoveries suddenly made are rare in medicine. Such as the discovery of the circulation by Harvey; anesthesia by Morton; vaccination by Jenner; the germ theory by Pasteur. We must add the Roentgen ray made public in December 1895 in a paper notable for profound learning, scientific accuracy and logical force but also for its genius and beautiful modesty. At a time when not a few cry their wares in the thoroughfare, and many fail to distinguish between the golden trump of fame and the tin whistle of notoriety, it is pleasant to listen to this calm deep thinking German scientist, one of the nobility of the craft, one of those who follow science for its own sake and for mankind. Roentgen's discovery was made by a sort of accident, but the genius was present to take note of the accident, and interpret its events. Not in grand University, of costly equipment, but in a laboratory poorly equipped, containing a Rhumkorff coil, a Crooke's tube and Roentgen himself. It is startling and unique. A pathway blazed through a jungle where no one thought of entering. It annihilates notions of centuries of time. Much is yet to be learned of it. The pathway is open, but there are yet dragons to conquer, giants to slay. No man knows what these rays are, but we are getting a clear comprehension as to what they can do. In doubtful cases we need a skiagraph, and one advantage is that special technical knowledge is not requisite to use it successfully. Skiagraphs to be useful must be taken by an expert, trained in a knowledge of electricity to get the best results from an X-ray apparatus. Foreign bodies can be located with certainty in the tissues. A bullet can be detected in the lung substance or in one of the bronchi; yes, even in the brain. In cases of doubt pictures must be taken in different attitudes. Though a needle may be located, yet it is not always easy of extraction; a piece was visible, incision failed to find it, other skiagraphs were taken; experiments with a skeleton led to the belief that the needle lay in the sheath of the peroneus longus muscle. The sheath was incised without finding the needle. A guide needle was inserted; another operation failed. Foreign bodies in the abdomen may be recognized, but it is hard to determine the exact position. In dealing with bullets the X-rays often enable us to decide if it is lodged in a safe region, whence it is not necessary to remove it—if it is deep and difficult of access, etc. Von Bergman insists against meddlesome surgery, where bullets, etc., are doing no harm. Foreign bodies have been located in the esophagus, in the trachea and the larynx, in the eye, and Sweet has devised a most ingenious addition to the ordinary apparatus which enables us to locate the exact depth and position of the foreign body. Vesical calculi have been caused by a hairpin in the bladder; Forbes obtained a skiagraph of a stone with a long metallic nucleus, this proved to be a knitting needle. Gallstones transmit the X-rays and cast very faint shadows; they can not be found in the gall bladder. Stones in the kidneys and ureters have been skiagraphed. But a failure does not prove that a stone is not there. Henry Morris sets forth the following difficulties: depth of kidney, thickness of tissues over it, situation under the ribs and close to the vertebral column. In examining bones and joints the new process is of great value. Tuberculosis is plainly visible. The tuberculous area is much lighter than the adjacent sound bone; several have reported the detection of spinal caries. Again we may know the state of the bone in crushed limbs; thickening of the periosteum, of bone, tumors, deformities, etc. In fractures, the rays are a great aid in finding the fracture, its direction, kind of deformity, splintering and impaction, muscle between the fragments. If manipulation has reduced the fracture and our splints are keeping it in place, it is now unnecessary to make an exploratory incision to determine the condition as before.

The speaker had been impressed with the practical value by some of his own cases—a fracture of the ulna united, the radius not—a supposed case of gouty arthritis which proved to be a fracture of the head of a metacarpal bone—a fracture of the styloid of the ulna supposed to be a sprain; a dislocation of the humerus with an epiphyseal separation. There is no question that unscrupulous lawyers will try to put us to trouble by skiagraphs of fractures united at a slight angle or with trifling shortening. Pictures should be kept of all such, as they may prove useful later. Again we recognize obscure dislocations; the outlines of the heart may be defined, etc. A sinus may be pictured. Many absurd statements have been made in non-medical journals, and wild theories put forth as to influence of the rays on vegetable life, etc. Nevertheless, this is one of the most marvelous discoveries of all time.

Ambulatory treatment of fractures.—This is springing into popularity. Properly employed it is useful. It can be used even when the fracture is as high up as the middle of the femur; it is best for fractures of the leg. Apply a solid dressing or apparatus to reach below the sole of the foot and have a space between it and the sole. In thigh fracture the body weight should be transmitted from the lower end of the pelvis to the apparatus, and in leg fracture from the middle of thigh to the apparatus. In one week a thick-soled shoe is plated upon the sound foot, and the patient permitted to walk about. Some say three days. It is claimed that walking is a stimulant to callus formation and fibrous union, that movement of the fragments which within certain limits is desirable and do not prevent union as with fracture of the ribs. Further, patients escape danger of lung trouble as in long confinement to bed. The muscles escape the usual atrophy; it is especially useful to children. Caution is needed. Do not use the method if there is great swelling, as this may be due to thrombus and give rise to emboli; even massage is dangerous in thrombus.

Toxins and antitoxins.—It is well to recall that human blood contains in health and in disease certain substances which may protect from bacteria and secure immunity of the organism. The alexins described by Buchner kill bacteria. The antitoxins antagonize bacterial poisons but do not kill bacteria. Healthy blood may contain antitoxins; the blood of a person who has acquired immunity to an infectious disease contains them. Blood serum has a lysogenic power upon bacteria which causes the organism to swell up, become granular and dis-

solve. Modern nature is endeavoring to use drugs of nature's own compounding. The value of serum therapy, etc., has been much debated this year. Some are enthusiastic, others are jeering doubters, the bulk of the profession are somewhat skeptical but aid and encourage the experimenters—look for proof but do not find it now. In streptococcus infection (erysipelas and puerperal fever) Marmorek feels sure that the serum is efficient. He treated 411 cases with a mortality of 3.4 per cent. Maragliano thinks this encouraging, but Germany doubts. We do not yet know with certainty the pith of the matter.

In tuberculosis, Richet and Hericourt have obtained no results from the injection of serum of animals refractory to consumption. Koch has modified his tuberculin and believes it is now a trustworthy agent. The new tuberculin is made thus: Dried cultures of bacilli are mixed with distilled water, the fluid is placed in a centrifugal and agitated. Two layers are separated. The upper is the old tuberculin (tuberculin O). The lower layer is the new tuberculin (tuberculin R).

This is given hypodermatically, first in very small doses, finally in doses as large as 20 mgs. Cases far advanced or with much fever are not treated. Koch does not claim cure but does claim great improvement.

In syphilis the serum of rams and dogs is alleged to have produced benefit. It is claimed that we can treat primary syphilis with the blood serum of an individual with tertiary syphilis and obtain early healing of chancres. In cancer serum has been useless. In tetanus we lack proofs of value. Again the diagnosis is not always sure. Inoperable malignant tumors have been treated. Some are enthusiasts; some, as Senn and Keen, disbelieve entirely.

Operations for insanity and idiocy: Drugs have been used in infinity. Superstitious rites, etc., every herb and plant has been pronounced the proper thing for these forms of disease. Trephining long was popular, one bored twenty-seven holes in the skull of a patient, today he would perform linear craniotomy. The comparative safety of operations has impaired the judgment of surgeons. Now most agree that if there is obvious injury of the head with cerebral symptoms and doubt as to the existence of fracture, the surgeon turns down a flap of the skull to see. But we no longer trephine in simple fracture without depression or cerebral symptoms. In children a moderate depression may bulge to the natural level by nature's processes. But when marked he trephines; this is known as preventive trephining. In discussing the question of traumatic origin of insanity we wish it to be distinctly understood that our belief is that traumatism can be a cause, but extremely rare. Traumatism, is often given as a cause by the relatives, usually it is only one of many causes, as heredity, inebriety, mental worry. It is probable that in the healthy brain an injury can produce insanity. This in several ways—concussion, fear; the lesions described as causative are sclerosis, pressure, inflammation, hyperemia, edema, congestion, etc. Symptoms may be early or late. But when late there are usually prodromics of change of character, irritability, moodiness, alteration of sentiments. Types vary; prognosis as a rule is bad. Some have apparently been cured by operation. Many have followed it. We should operate where there has been no obvious traumatisms indicated by scar, depression, etc. We should not operate in paresis; improvement has been known to occur without. Again much want of care is seen in describing a case of insanity. My own conclusion is that while a certain proportion of insanities have been due to traumatism, in few is there a causative lesion. Many cases are not cures. Craniotomy for idiocy is now going out with the tide. Microcephalic idiocy is rare. Pressure is not the cause of idiocy. Much can be done by skilful training. It may safely be said this operation is a failure. "You may as well forbid the sea to roll, etc."

Among a multitude of ideas, facts, disputes and tendencies we may mention as worthy of thought and attention—the determination that operations for cure of epilepsy are rarely permanent in result, the great value of operations for meningeal hemorrhage, cerebral abscess and infectious sinus thrombosis, the slight value of most other operations upon the brain—the diagnostic usefulness of lumbar puncture by Quinicke's method and its therapeutic usefulness. The great appendicitis controversy which is still under headway and undisturbed in viciousness and irascibility: When shall we operate? Shall we always remove the appendix in abscess cases? These are the questions which are in course of solution. The decadence of the supreme position of the chemic germicide and increased confidence in asepsis rather than antisepsis. The use of Bier's method of congestive hyperemia in tuberculosis lesions. Infiltration anesthesia as devised by Schleich; local anesthesia by eucain and the sloughing apt to follow it; Rosenberg's method by cocainizing the nares before chloroform, the dangerous nasal reflex being abolished by the time the chloroform is inhaled; the mass of contradictory evidence as to ether and chloroform on the kidneys; the use of oxygen with ether and chloroform, etc. In general, of late, destructive radicalism has lessened its sway and scientific conservatism enlarged its domain. Conservatism, save without operation, does not mutilate. The spirit which animates the real leaders of modern surgery is the same spirit which was in the temple with Hippocrates and in the school with Herophilus; by the lonely lamp of Celsus and in the solitary study of Vesalius; which was with Harvey in the laboratory and Paré on the battlefield; which was in the lion heart of Abernethy and which filled the lordly soul of Hunter; which stimulated the labors of Gross and guided the scalpel of Agnew; a spirit which ennobles, elevates and dignifies the magnificent science of modern surgery.

The address in mental disorders was by Dr. THEO. DILLER, Pittsburg.

THE SCIENTIFIC EVOLUTION OF STATE HOSPITAL FOR THE INSANE.

Mental diseases must be studied from several standpoints, as that of the humanitarian, the anthropologist, the social scientist, the political economist, the alienist. Each overlaps the other. But small fragments can be treated in the limits of such an address, hence he chose to consider the hospital and asylum. These are greatly overcrowded. In them are over 1,200 more than can be accommodated. Hence they can not receive proper treatment. A scheme for the care of the chronic insane has been in successful operation in Wisconsin for sixteen years. Twenty-six hundred cases are cared for in twenty-three county asylums connected with farms. Each has a capacity of 100 to 123. The State pays them $1.50 for the care of each case, and exercises strict supervision over them. Cases are admitted not directly, but sent from the State hospital when it is evident they will not be benefited by hospital treatment. They are placed nearest their homes, accessible to visits by relatives. Ample opportunity is secured for work out and in-door. Three thousand of the 5,600 cases in the State are incurable. If Pennsylvania were to adopt this plan the State would save $300,000 yearly, leaving the hospitals filled only to two-thirds their normal capacity. The State board of lunacy should be abolished. A commission of three members, well salaried, should devote their entire time to the work. All the haphazard work should cease. These insane hospitals need a central guiding power. Civil service should be established for all. Superintendents should meet the commissioners monthly for advice. A pathologic laboratory should be provided for all. Pennsylvania needs separate institutions for criminal insane. Inebriates need a separate place. Today the outlook is encouraging. He quoted largely the results of the Massachusetts hospitals. Internes are appointed after competitive examination, serve without pay other than lodging and board. Thus we may double the medical force with little expense. A neuropathologist of the highest grade is selected. Nurses should be trained for the care of the insane. In such places the clinical work is of the highest order. Pathology is done in a number of hospitals, and the number is growing. The friends of scientific evolution of insane hospitals can hope for much when we see what has already been done. Pennsylvania should take a step forward, imitate the example of New York.

Dr. C. W. DULLES gave "Some comforting Facts about Consumption," The disease is not contagious. By care much has been done to prevent the spread of this disease. We see a great decline in its prevalence.

Dr. S. M. SMITH, Philadelphia, read a paper on

CHRONIC SUPPURATIVE OTITIS MEDIA.

Here we have an enormous field for preventive medicine. Arrest the initial tympanic inflammation, give prompt relief should it advance to acute suppuration. There are several varieties of this disease: Inflammation confined to the lower part of middle ear cavity with opening in the membrane, granulations protruding, caries relatively infrequent. Or perforation may involve the entire membrane, the ossicles changed by necrosis, deafness marked, obstinate discharge and proneness to mastoid and brain complications. Prognosis of first mostly favorable, while attic disease is serious. We must relieve or modify the persistent discharge, remove masses of granulation, polypoid growths. Absolute cleanliness, general antisepsis; irrigation or syringing to be used only in selected cases. Cleanse the ear carefully by mopping with sterilized cotton saturated with hydrogen peroxid; then many are cured by applications within the tympanum of nitrate of silver or liq. plumbi subacetatis, loosely packing with iodoform gauze once or twice a week, gradually ceasing as the discharge ceases. Dusting the surfaces with acetanilid powder is also valuable. Granulation may be destroyed with strong solutions of chromic acid, but better with

instillations of absolute alcohol. Pain from this is reduced by a 50 per cent. solution of boroglycerid in the proportion of one dram to the ounce of alcohol. Pack the canal after each with iodoform gauze. Boracic packing is useless and objectionable, preventing free drainage. If no improvement in a few weeks, enlarge the tympanic opening, remove all inflammatory products, taking care not to disturb the ossicles, and again follow the line as above. Care of the naso-pharynx and the general health is needed. Perforations high up with more or less necrosis of the ossicles and walls, indicate a more formidable disease, the dura mater may be infected and diffuse meningeal trouble occur. Here we must establish free drainage, remove the ossicles and all other pathologic products.

Dr. A. C. WENTZ of Hanover spoke on "The Umbilical Cord." Its affections are hemorrhage, vegetations from suppuration, tetanus, sepsis. Treatment of the cord is as various as the mind of the attendant. He quoted the plans adopted by the best minds, as Doktor, Noble, Boyd and others, in various institutions. After long unsatisfactory attempts in various methods he concluded that calomel, or that and boric acid, are the best that can be used for dressing the stump for both rich and poor alike, the city or the country, and for the reason that calomel is an antiseptic, keeps the surface of the skin free from urinary and fecal chafing; they are cheap, easily carried in the obstetric bag, easily applied, a teaspoonful being sufficient for a two weeks' dressing.

Dr. C. A. VEASEY of Philadelphia, read a paper on

THE TREATMENT OF COMPLICATED ULCERS OF THE CORNEA,

in which, after defining that he meant by a complicated corneal ulcer one that was more or less extensive and that showed a disposition to spread rapidly and involve other portions of the cornea than that first affected, he advocated the institution of the following treatment:

1. Examine thoroughly the conjunctiva, the lachrymal ducts, the nares and naso-pharynx, as well as the cornea itself, and if any abnormal condition be found that is either the primary cause of the ulcer or that is keeping up the condition, direct the treatment against it as well as against the ulcer itself.

2. Employ moist heat by means of the local application of pieces of lint or flannel wrung out of hot water at a temperature of 120 F. from fifteen to sixty minutes at a time, repeating at intervals varying from two to four hours, according to the virulence of the disease.

3. Cleanse the ulcer and the conjunctival cul-de-sac with some warm antiseptic solution immediately after the employment of the moist heat, and between the times of its employment if there be much discharge. For this purpose may be used a saturated solution of boric acid, a solution of bichlorid of mercury (1 to 6000) or a solution of formaldehyde (1 to 4000).

4. Instil a drop or two of a solution of atropin (four grains to the fluid ounce) once or twice daily if the ulcer be central; but if it be peripheral, a solution of eserin (one-sixth of a grain to fluid ounce) may be employed from three to six times during the day and the atropin solution instilled once at night.

5. The eye must be protected by dark glasses or an evenly and lightly applied bandage. As a rule the former should be used in those cases in which there is considerable discharge, the latter in the cases in which very little discharge is present.

6. Should the above means fail to check the progress of the ulcer, it should be curetted and, after dusting on its surface some iodoform previously pulverized and sterilized, a bandage applied.

7. Should the ulcer continue to spread, after being curetted it should be touched with some of the chemical agents employed for the purpose. Of these the tincture of iodin, liquid carbolic acid and silver nitrate (the latter in the strength of ten to twenty grains to the fluid ounce) seem to be the best.

8. The actual cautery should be applied after the previously described remedies have been employed without beneficial result, or even before these have been used if it be seen that the ulcer has assumed a malignant type, that is if the cornea is becoming so rapidly involved that the destruction of all or a large portion of its tissue is threatened.

9. During the treatment of any case of corneal ulcer, be it ever so mild, if there be present any pathologic condition of the lachrymal passages, of the nares or naso-pharynx, it should be very carefully treated at the same time that treatment is directed toward the ulcer itself.

10. Any unhygienic condition, dietetic error, or constitutional diathesis should be corrected.

Dr. W. J. K. KLINE of Greenburg, read a paper on

SCIENCE IN MEDICINE.

This paper discusses the uncertain and unsatisfactory methods of the treatment of disease as exhibited in the medical practice of the part, and endeavors to show that further progress in ascertaining the properties and a chemical basis should be the paramount object in the labors of those who are especially engaged in analyzing the various articles of medicine by ascertaining their exact chemical formulas and so arrange them that their therapeutic properties would be readily ascertained and known.

A complete system on this basis would do away with the numberless varieties of medicinal agents and would not only simplify the practice but would vastly enhance the beneficial results of treatment and place upon a higher plane the whole professional character.

Some examples were given to indicate the direction of thought, and the method of overcoming difficulties was outlined.

Dr. J. C. LANGE of Pittsburg read a paper on "Asphyxiation by Carbonic Acid as the Death Penalty." He spoke of the horrors of hanging, the dread of strangling, perhaps the breaking of the rope, the head being entirely jerked off, or the rope being too long, its failure to cause death, etc. All, however, acted as an element of punishment, while the easy, speedy death by carbonic acid would rob the law of its terrors.

Dr. E. B. BORLAND of Pittsburg spoke on the subject of "Rheumatism." It is second only to tuberculosis. Less importance is attached to heredity. Many regard it as a germ disease. No specific germ has been isolated to prove its existence. The blood contains toxins, rarely germs; it is an intoxication rather than infection. The tonsils are believed by some to be the seat of entrance. Majority of sufferers have intestinal indigestion, fermentation; a sour odor is noticed from the stools and stomach, then in the urine and perspiration. He believed the depraved small intestine contained indigestible food, furnished the medium for culture germs, the toxins of which produce the the rheumatic blood state. It is thought the pus-producing germs are the factors. Pathology: The toxins give rise to increased oxidation, fermentative acids are thus caused in the blood, nitrogenous waste is also increased by the presence of toxins. Red corpuscles are diminished, fibrin increased. The disease is associated with malnutrition, imperfect digestion, and its poisons have a special affinity for fibrous tissues. General febrile phenomena have little diagnostic significance, the sour, pungent stools, perspiration and urine, even sometimes acidity of alkalin fluids in the earlier stages of acute attacks; the metastasis to and involvement of parallel joints with inflammation of the larger articulations, heart lining and covering easily make the diagnosis. Under middle age the patient ought to get well; average lasts six weeks. Treatment consists in complete rest, hygienic surroundings, wool clothing and bed covering, easily digested food, abundance of water (five to twelve pints a day). Special treatment: Neutralize the acidity, remove the source of the poisons; move bowels well, administer alkalies till urine is neutral; quinin is valuable; soda salicylate acts partly as an intestinal antiseptic; methyl salicylate is better, not so depressing and a moderate blood and intestinal antiseptic; phenol salicylate (salol) is a decided advance, yet it irritates diseased kidneys, therefore the urine should be examined before using it, 10 grains every two hours. It is pleasant to take, splits into carbolic and salicylic acids in the small intestine, relieves pain, does not depress, lowers temperature. About one hundred grains should be given in divided doses in twenty-four hours.

Dr. C. W. DULLES, Philadelphia, made a report on "Hydrophobia," which gave a history, as far as obtainable, of all cases published since his last report. He was, as usual, very emphatic in his belief as to this disease and provoked quite a discussion as to the reality of the disease.

The report of the special committee on the publication of the Transactions was read and it was agreed to publish in journal form, as several offers from journals had been presented. After some discussion the matter was postponed for a full report on each of these.

In the evening at Carnegie Hall the President delivered the annual address. His subject was the

ADVANTAGE OF MEDICAL ORGANIZATIONS TO THE PROFESSION.

He alluded to the originators of the Society with reverence, Alfred Stillé yet remaining. It was started by physicians of Chester and Lancaster Counties. This is the fourth meeting in this city. When it was organized the practice of medecine was largely empiric; blood letting and mercurialization were the accepted methods. Pathology was unknown, surgery was sacrificial, not conservative. The Atlees had but begun the revival of ovariotomy, which has now developed that important department, abdominal surgery. Communication was difficult, traveling slow, journals infrequent, new procedures in any branch were long doubted. Medical societies have stimulated the profession, we have concerted action, medicine has progressed; we have new drugs, new surgery; every part

of the body is reached with the knife, entire revolution has occurred. Old things have passed away, all things have become new. Now, every plan is heralded in all parts of the world, tried by every one; we find the cavities illuminated and explored; the individual can register the beauties of his own skeleton. The germ theory has given us scientific treatment. We will be occupied with the bacillus, but we will employ him to aid us in our work, one to destroy a malignant form. He alluded to the work of surgery in the region of the peritoneum, of the appendix and similar troubles. Medicinal agents are now manufactured by large establishments, made more useful, attractive to the eye and the palate. Many companies would almost persuade the patient by their explicit directions how, when and where to use these manufactures that the physician is no longer needed; they give the compounds under names which give no clue to the ingredients and resent his want of confidence and preference for articles better known. It is a question whether the facility with which elegant preparations are secured is an unmixed evil. The physician should insist upon a knowledge of the chemic and qualitative composition of every compound he dispenses. The importance of careful training was early recognized by this society. Licensing was at the first meeting proposed, a measure requiring forty years to accomplish. Longer periods of study were urged, four years was none too long then in the estimation of our founders. With the present year the first class of four-year men graduates at the university. The record of this society is glorious and the decision to publish a journal affords an opportunity to get to the members early all its doings and in a form most acceptable. We have 3,000 in affiliation, yet we expect of the 7,000 physicians in the State many will become subscribers to the journal as has been seen with the AMERICAN MEDICAL ASSOCIATION. Still it is a field in which labor may not fully succeed as in the AMERICAN ASSOCIATION, as yet only about eight thousand or more out of 70,000 physicians are subscribers. There should be no turning back, the journal must be a success or not be attempted. Subjects should be associated of a similar character, rather than have a paper and discussion on one day, then a similar paper next day. The ground is again to be threshed over, or this paper, perhaps a better one, left undiscussed. We can thus economize time. Encourage the ablest men to read papers or discuss them, thus we can add to the great value of the meetings. He felt it would be better to assign one day to surgery, another to obstetrics, etc., so that those who desired could attend and hear those papers in which they were interested. He suggested that in place of the present Committee on Scientific Business there be appointed a committee of three representing the three divisions of medicine, who shall arrange the program, that these three shall prepare addresses in their branches to be presented as the first article on the program, the order of subjects to change each year. This would make the president interested in and responsible for the success of the meeting over which he presides, insures the specialist one day adapted to his needs, affords the general practitioner opportunity to compare notes with men of authority and large experience and will be advantageous to all. It should be so well prepared that every member could not afford to miss a single meeting. A night session on the second day to consider some special subject would be useful. The subject to be opened by a speaker on either side and after the debate the conclusions closed by the principals. This would be extremely valuable and add much to the circulation of the journal. Within a few months we have lost three ex-presidents, Drs. Hiram Corson and Traill Green were long in the profession, had outlived the usual period allotted to man, were of strong, positive character and devoted to the profession. Dr. J. B. Murdoch of this city, the genial gentleman, skilful surgeon, the earnest teacher, whose years were shortened by his devotion to study. I can not close without reference to another whose gentlemanly, kindly manner has endeared him to all, I allude to William H. Pancoast.

On Wednesday the "Address in Hygiene," by Dr. A. P. BRUBAKER, was devoted to a consideration of the views of the day on hygienic matters.

Dr. T. J. ELTERICH of Allegheny reported

SIXTEEN CASES OF LARYNGEAL DIPHTHERIA TREATED BY ANTITOXIN AND INTUBATION.

Membranous croup is now regarded by most authorities as always diphtheritic, and while it is acknowledged that cases may occur which are non-specific, non-contagious in character, they are undoubtedly rare in number. The writer considers all cases of pseudo-membranous laryngitis, not of traumatic origin, as local manifestations of diphtheria, and bases the treatment on that diagnosis. Of course, the presence of the Klebs-Löffler bacillus is a definite criterion of diphtheritic pseudo-membrane.

Dr. P. J. EATON, Pittsburg, read a paper on the "Daily Medical Inspection of the Public Schools." He alluded to the need of understanding infection and contagion, explained the general views on these, the proper methods of preventing disease spreading by isolation, etc.; quoted largely from the work done by various health boards, in New York, Boston, etc. The first requisite is a board of health with power to enforce its decrees; then the appointment of school inspectors to examine all complaining scholars, sending home those sick, defining for each the disease, etc., gave the proper plan for disinfection, a series of cards and certificates to be used for the entire work; finally the plan for real isolation, that would prevent any possibility of contagion. He would divide a city into districts of convenient size, in each have a competent medical man as inspector, to visit each school daily, all complaining children to be mustered in a central office, there examined, a certificate given each, the health board notified where necessary, the family physician also.

Dr. X. O. WERDER, Pittsburg, read a paper, "Report of Two Interesting Cases of intestinal Resection and Anastomosis." In one a very large portion of the small bowel was resected with complete recovery.

Much discussion followed upon this paper as a subject of unusual interest.

Dr. F. BLUME of Pittsburg read a paper,

OVARIAN TUMOR COMPLICATING PREGNANCY; PORRO-CÆSAREAN SECTION.

Mrs. C. S., 38 years old, mother of four children, was kindly referred to me by Dr. G. L. Bumgarner of Natrona, Pa., with the diagnosis: Pregnancy complicated by a tumor obstructing the birth canal. She entered the gynecologic service of the Allegheny General Hospital June 18, 1895.

On examination the uterus was found to correspond in size and position to an eight months' pregnancy. The pelvic cavity almost completely blocked with a dense ovarian tumor. The cervix uteri, high up and pushed to the right, could only with difficulty be reached by passing the finger between the tumor and the pubes.

An attempt to push the tumor back was not successful. The question arose: Could the tumor be removed without interrupting pregnancy? If so, immediate ovariotomy would probably be the safest method of procedure. Ovariotomy, however, before the uterus was emptied of its contents was deemed impossible on account of the location of the tumor and its inaccessibility. Condition of the patient being good, it seemed to be proper to postpone interference in the interests of the child. Advised the Porro operation with removal of the growth and decided to operate a week before term.

Operation July 12, 1895. Long incision. Uterus delivered from the abdominal cavity, the upper part of the incision closed to prevent escape of the intestines. A rubber ligature loosely applied around the cervix, to be tightened in case of hemorrhage. Uterus incised, membranes ruptured and the child delivered. The cord cut between forceps and the child handed to an assistant. Cervix constricted with the rubber ligature, transfixing pins applied, the placenta removed and the uterus amputated. The tumor, which arose from the left ovary and was bound down by adhesions, was enucleated, lifted out, ligatured and cut away. Peritoneum sewed around the stump below the rubber ligature. Abdominal incision closed and stump dressed with iodoform and iodoform gauze.

The tumor, which was larger than a child's head, proved to be a multilocular cyst.

The patient made a splendid recovery. The child, a fine boy weighing nine pounds, was put to her breast on the third day following the operation, and lactation continued uninterruptedly. She visited me with her boy last summer. Both were in excellent health. Upon examination I found the cervix uteri very small, attached to the abdomen and giving no inconvenience. No ventral hernia.

(*To be continued.*)

Chicago Pathological Society.

Regular meeting held March 8, 1897,

Dr. JAMES B. HERRICK, President, in the chair.

Prof. EDWIN KLEBS read a paper on "Some Remarks on Malignant Growths" (*vide* JOURNAL p. 575).

ICTERIC NECROSIS AND NATURAL INJECTION OF THE INTRACELLULAR PASSAGES IN THE LIVER.

Dr. GUSTAV FÜTTERER—The case from which these specimens were obtained was one of primary carcinoma of the gall bladder. The illustrations which I pass around show carcinoma of the wall of the gall bladder growing into the liver

substance and along the hepatic duct, and causing obstruction of the hepatic duct. It was a glandular carcinoma, and the first photograph shows this very nicely. The next illustration shows how carcinoma begins and grows into the liver substance. The obstruction of the bile duct caused a dilatation of all the bile ducts inside of the liver. When I came upon the bile ducts and opened them, they were filled with absolutely clear mucus. Their walls were thickened. A microscopic examination revealed necrosis around some of the gall ducts, which was due to pressure by the dilated duct. This pressure necrosis was only found in comparatively small spots. Inside of the acini icteric coloring was observed in every one of them, occupying a central zone around the central vein, increasing more and more the nearer it got to the central vein. All through the liver, the central vein was surrounded by an inner row of preserved liver cells, which leads me to conclude that the lymphatics have carried off the main part of the lymph. A more minute examination of the cells inside of the icteric necrotic portions showed the following: Surrounding the necrotic portions a great number of small, contorted, greenish masses were found inside of the cells, masses which were formed like corkscrews when they were rather small, but which became more and more straightened out as they grew larger. They were mostly found around the nuclei as concentric rings. It was seen that bile had been retained inside of the liver cells, and normal bile channels inside of the liver cells could thus be seen. How did this come about? The current of bile must have been reversed. For some reason or other, the bile has not entered the interlobular gall ducts. Whether the pressure of the mucus that filled the gall ducts prevented the bile from running in that direction, or whether it was caused by obstructions between capillaries and ducts, I am unable to say; the fact remains that the current has been reversed to the center, for there we find the icteric necrosis. The peripheral portions and the cells of the intermediate zone got rid of their bile almost as fast as it was produced, while the central portion was continually overloaded. Thus the cells in the central portion were not able to get rid of their bile, and in our microscopic specimens, which were well preserved in formalin, thickening of the bile had taken place, inside of intracellular channels. I exhibit a photograph showing a high degree of destruction of the liver cells which progresses to complete dissolution. I show a drawing which points out the connection between the extracellular and intracellular bile channels. If you will look closely at the drawing, you will see that one of the intracellular branches dives down under a nucleus and comes out again on the other side. I show you photographs of small channels that are contorted. Some of the photographs show how the cells become actually destroyed and the network dissolved. In one photograph we have a perfect network. Of course, we can not expect a clear, perfect picture, as the loops occupy different planes, and you would have to photograph a number of sections to get a proper view of the whole network of a certain cell. But if you will look at the photographs with a magnifying glass you will be able to see these channels very plainly. You probably know that experiments have been made by numerous investigators, who have succeeded in driving the fluids which are used for injection of the bile ducts into the cells, but it has always been a question whether these were artefacts or not. Here we have a natural injection of the intracellular channels with bile, which tends to prove that those who made artificial injections of the bile duct system have succeeded in driving the liquids used into the intracellular roots of the whole system.

My conclusions would be: A stenosis of the hepatic duct has caused stagnation of bile inside of the gall ducts, this causing a dilatation of the ducts, a thickening of their walls, and patches of necrosis of liver cells. The bile contained in the ducts was gradually replaced by mucus produced by the glands of the ducts. About two-thirds of the volume of the liver substance was apparently unchanged and the liver produced large quantities of bile, which, however, were not excreted by way of the gall ducts, probably because the thickening of the walls of the gall ducts caused obstruction of the entering capillaries. The reason why I would prefer to accept this explanation is because I find no dilatation of bile capillaries in the peripheral zones of the acini. Not only has the bile been prevented from running in the normal direction, but its current has been reversed and it has entered mainly the perivascular lymphatics which surround the central vein, but also to some extent the latter. Further, the constant overloading of the central zone of the acini with bile, prevented the cells of these portions from expelling the bile produced by themselves, thus enabling me to study the intracellular bile channels and even have them photographed with oil immersion. The study of those channels shows that they are very small, contorted, that they surround the nuclei as rings or approach them in radial directions, that they form networks in the protoplasm of the cells, also around the nuclei, and that they communicate with intercellular ducts. These channels lose their contorted appearance as they become dilated more and more, and as they grow larger, the substance of the cell and the nucleus degenerate, until at last nothing but detritus tells of their former existence.

DISCUSSION.

Prof. EDWIN KLEBS—I have been very much interested in Dr. Fütterer's demonstration. The question is, What is it that fills up these canals? Can it be only bile? I think not. As bile is fluid and stains the liver cells diffusely in icterus, can it not be that hyaline masses, formed in the liver cell, are the cause of obstruction of these intracellular canals? Impregnated with bile, this suggestion seems to explain much more clearly the dilatation of the canals, than by fluid masses. A very similar process may be seen in phosphorus intoxication. There the intercellular canals are filled up with such hyaline masses (O. Wyss and Alter). New researches will show possibly also intracellular canals.

Dr. LUDVIG HEKTOEN—In addition to the artificial and natural injection of intracellular passages, there is another way of demonstrating them, namely, by means of Golgi's stain. I show you here the plates illustrating Erik Mueller's beautiful work on "Intracellular and Intercellular Passages." This plate represents the intracellular passages as revealed by Golgi's method in the liver.

THE FATE OF GIANT CELLS IN HEALING TUBERCULOUS TISSUE.

Dr. LUDVIG HEKTOEN presented a number of microscopic specimens from a case of healing tuberculous leptomeningitis and made the following remarks concerning the changes in the giant cells: The investigations into the nature and the importance of the giant cells of tuberculous tissue have not led to uniform results. Baumgarten, Weigert and others look upon them as necrobiotic from the inception. Metchnikoff and his school regard them as active, living, defensive cells. The mode of formation, the sources, the relation to bacilli, the degenerative changes of giant cells have all been studied, but the further definitive changes that occur when the bacilli are removed or their action neutralized before the giant cells become necrotic have received but very scant attention. Are the giant cells left capable of progressive changes, do they continue to exist as giant cells, or are they removed by way of disintegration? Manifestly a definite answer to some of these questions would throw some light upon the nature of the giant cells. D. J. Hamilton remarks that sometimes giant cells live on and organize, *i. e.*, secrete or form fibrous tissue. The numerous investigations into the healing of tuberculous peritonitis make no reference to the part played by the giant cells. The most extended statement occurs in the work of Professor Klebs on "Die Causale Behandlung der Tuberculose"; he states that giant cells in healing tuberculous tissue in guinea pigs subdivide into uninuclear cells and become part and parcel of the living tissue, more particularly of the endothelial lining of vascular channels and spaces.

In an unusually long case of tuberculous leptomeningitis in a 35-year-old man, the symptoms, consisting of headache, optic neuritis, occasional vomiting, extended over four months, death resulting from a pneumococcus pneumonia—the post-mortem showed a chronic tuberculous basal leptomeningitis, tuberculosis of the peribronchial lymph glands, chronic nephritis and lobar pneumonia. At the base of the brain there was much turbid fluid and a thick layer of firm translucent material containing pin-head sized and large nodules. In the exudate, tubercle bacilli were demonstrated by means of culture. Microscopic examination of the leptomeninx showed a chronic fibrous endarteritis, and the production of much loosely fibrillated young connective tissue with larger and smaller fibroblasts, young blood vessels and very many multinucleated giant cells. The giant cells—as seen in the specimens exhibited—present various changes in various degrees. There are giant cells that seem to be dividing, but this division is accompanied with much nuclear disintegration, vacuolation of the protoplasm, and phagocytosis; there are also some karyokinetic figures in single nuclei in the giant cells from the disintegrating cells. There are also giant cells that seem to be dividing into smaller cells without nuclear disintegration, but the fate of the smaller cells could not be made out; they did not appear to form new blood-vessels. The following reasons allow this case to be regarded as a chronic, healing tuberculous meningitis: 1, the process has reached the same stage throughout the whole area involved; 2, there is but very little caseation; 3, there is present a chronic endarteritis; 4, acute inflammatory changes are absent; 5, the presence of a fibrillated, vascular, embryonal tissue; 6, the changes in the giant cells. The fact that tuber-

cle bacilli grew from the fluid inoculated on glycerin agar show that the cells in the pia were, so to speak, immune to their action; while the mechanism of this immunity need not be discussed, it is plain that the cells survived the action of the bacilli and retained vitality enough to form new tissue. There is a large number of giant cells, many of which are splitting up and show progressive changes side by side with retrogressive; the nuclei in the giant cells present my independent foci of activity; they are independent centers. Whatever the mode of origin of the giant cells may have been—whether by fusion, mitosis or amitotic division of the nucleus without division of the protoplasm, the mode can not have been incompatible with viable descendants.

Conclusions.—In healing, non-degenerated tuberculous tissue the multinucleated giant cells may in part disintegrate and become absorbed, in part form small cells; both these changes usually affect the same cells, but in one class—presumably the older and weaker—the retrogressive changes predominate, while in a second—presumably the stronger and younger—the progressive changes are the more marked. The fact that giant cells in tuberculous tissue under some conditions undergo progressive changes and separate into small, living cells proves that they are not, as claimed by Baumgarten and others, necrobiotic elements that are predestined to destruction; it lends more strength to the teleologic view of Metchnikoff that they are living cells, defensive, formed for a distinct purpose.

DISCUSSION.

Prof. EDWIN KLEBS—In a case of tuberculosis of the testicle I was very much surprised to find a great number of giant cells lying very close to each other. In places there were fresh tubercles, round cells, with a few tubercle bacilli, so that we can say that the process in this case showed the same feature of healing as in the case just described by Dr. Hektoen. In tuberculosis of the testes the giant cells as a rule contain no tubercle bacilli, but it was very curious that the greatest number of them, in my case, were found in connection with striated muscular fibers. Some of the cells surrounded the muscular fibers. Others could be seen in long rows along the muscular fibers. In some of the cells which were near the muscular tissue I observed small crest-like masses included in the giant cells. That the clear centers of the tuberculous giant cells are not necrotic, seems to be evident in those cells that originate from vascular tissue.

I am not inclined to accept the theory of Metchnikoff, that the giant cells are organs of destruction of microbes or of red blood corpuscles (Langhans) or of bone (the osteoclasts of Kölliker). This suggestion would seem acceptible if the giant cells had the force of contraction. But the many projectjons of their substance are absolutely immovable, as I have often observed in living giant cells of different origin. The same has been proven by the persistence of the rigid projections in the dead cells, whereas, the ameboid projections of leucocytes are retracted in death. Giant cells are not necrotic for they are continually developing fresh nuclei. I have seen such giant cells in cases of carcinoma in which we observe the production of new nuclei in successive generations. The same feature must characterize the formation of giant cells in healing tuberculous tissue. They are formed under every circumstance from the endothelial cells of the tissues under the influence of regenerative processes. That they contain in tuberculosis sometimes tubercle bacilli has no other signification than the inclusion of foreign bodies or tissue constituents.

The positive demonstration by Dr. Hektoen that they finally return to the normal tissue cells, or split up in their first constituents, is in conformity with my own observations ("Causal Treatment of Tuberculosis," 1894), and seems to me to be of the highest importance and shows clearly that they are in a living condition. If one might express a theory as to their formation, one could say that the hardened character of the protoplasm of giant cells constitutes a favorable condition for the new cell development in the struggle against destructive microbes or foreign bodies, or dead material of the body itself.

DIFFUSE SCLERODERMA ASSOCIATED WITH CHRONIC FIBROUS CHANGES IN THE THYROID AND GREAT DIMINUTION IN THE AMOUNT OF THYROIDIN; INCREASE IN THE CHROMOPHILE CELLS AND OF THE COLLOID IN THE HYPOPHYSIS.

Dr. LUDVIG HEKTOEN—Through the courtesy of Dr. Noel an opportunity was given to study the organs of a case of diffuse scleroderma in a woman 51 years old. The clinical history, for which I am indebted to Dr. H. E. Brennecke, shows that the disease had lasted about one year and that it had pursued a typical course and rapidly become almost universal in its distribution. The patient died after having been unconscious for three days.

The anatomic diagnosis reads as follows, the postmortem having been made immediately after death: Diffuse scleroderma, atrophy of the thyroid, arterio-sclerosis, fatty and atrophic liver, chronic nephritis, interstitial myocarditis and hypertrophy of the heart, gummas (?) of the liver, chronic caseous tuberculosis of the retroperitoneal glands, edema of the lower extremities, adhesive pleuritis and pelvic peritonitis. The skin over the face, neck, chest, abdomen and parts of the extremities as well as of the back is hard and tight, smooth and without any wrinkles; it seems thin, but cuts with resistance. The thyroid is small and fibrous, weighing 14 grams, the isthmus is absent. The condition of the other organs is sufficiently well set forth in the anatomic diagnosis. The microscopic examination showed the brain and spinal cord to be quite normal. The areas in the liver that were thought to be gummatous are found to be aberrant or obstructed bile ducts. The thyroid is the seat of extensive fibrous changes with atrophy and destruction of the glandular portion, resulting in the formation of larger and smaller cysts, in which is inspissated colloid material. Normal follicles with normal lining and normal colloid contents are very rare. The arteries in the thyroid are the seat of a general and greatly advanced obliterative thickening. The hypophysis weighs .7 gram; it is consequently very large; the number of chromophile cells and the colloid material are increased, as can be seen in the sections under the microscope. The changes in the skin may be summarized as follows: There is a great hyperplasia of the collagenous intercellular substance in the corium with flattening of the papillary body, together with a breaking up and spreading asunder of the elastic fibers, obliterative thickening of the blood vessels, atrophy of the interpapillary epithelium as well as of the epidermis, the hair follicles and the coil glands. These changes are diffuse, practically universal, although not always of the same degree. The appearances were studied in sections prepared according to Benecke's, Unna's and other methods for demonstrating collagen and elastin.

The chemic examination of the thyroid was made by Mr. H. G. Wells and the following is his report:

"The thyroid gland in this case when fresh weighed 14 grams. This is very much below the normal weight, for sixty glands from persons between 25 and 65 averaged in weight 22 grams, over one-half more than did this gland. When dried, allowing for the portion removed for microscopic purposes, it weighed 3.23 grams, the average dry weight of twenty normal glands from the same series being 5.37 grams. This dried gland was analyzed to determine the amount of iodin it contained, using the colorimetric method advocated by Baumann in his original work on the iodin contents of the thyroid gland. The analysis was made in duplicate, both determinations agreeing closely, and it was found that in each gram of the gland was contained 0.91 mgr. of iodin, giving a total amount of 2.94 mgr. as the contents of the entire gland. Analysis of a series of twenty normal glands from residents of Chicago has given as the average amount of iodin in each gram of the dry gland 2.01 mgr. The average total contents of iodin in these cases was 10.79 mgr. Therefore in this gland the proportion of iodin was less than half the normal and the total quantity of iodin between one-fourth and one-third that usually contained in a normal gland. It is also far below that of any normal glands in the series quoted, for the smallest amount found there was 7.46 mgr. and in that case the amount of iodin in each gram was 1.98 mgr. From this it is evident that not only was the gland quantitatively atrophic but probably also functionally, for as a general rule, the smaller a normal gland the larger the proportion of iodin it contains, so bringing the total iodin contents up to a certain standard, which in this vicinity appears to be about 10 mgr, whereas in this case despite the small size of the gland, the proportion of iodin was much below that one would expect to find in a gland of much greater size. The hypophysis would seem to be correspondingly enlarged, for in a series of twenty-one glands the fresh weight was found to be but 0.4 gram, while in this case the weight was 0.7 gram. In the series mentioned but one gland was found of so high a weight and this was probably not a normal gland, for it contained an unusual number of cyanophile cells which greatly outnumbered the chief cells. It is probable that the iodin in the hypophysis is contained in the colloid material, just as Hutchinson has shown it to be in the thyroid. Analysis of fourteen normal hypophyses gave as the average amount of iodin in each gland 0.0036 mgr., which represents for each gram of dried hypophysis 0.04 mgr. This is but about one-fiftieth as large a proportion of iodin as is found in the thyroid gland, and corresponds to the relatively trifling amounts of colloid that the hypophysis contains. Unfortunately, the hypophysis from this case could not be examined chemically, as it was used for microscopic

purposes, but it is probable that because of the increased amount of colloid it contained that a comparatively large amount of iodin would have been found."

We have in this case the cutaneous changes characteristic of scleroderma associated with fibrous changes, atrophy and diminution of iodin in the thyroid and increase in the chromophile cells and colloid in the hypophysis. These changes in the hypophysis were found quite frequently by Schönemann in connection with goiter and their exact nature, whether degenerate or compensatory and hypertrophic, can not be stated because the writers are not in entire accord as to the significance of the chromophile cells, *i. e.*, cells with an eosinophile or cyanophile cytoplasm.

The causes of diffuse and other forms of scleroderma are not known. The neuropathic theory of Schurminer remains to this day without any anatomic substratum. The chief objection to Dinkler's view, that the obliterative arteritis is the primary lesion in the process, is that it is difficult to understand how the arteritis can lead to such a degree of collagenous hyperplasia. Singer found the thyroid the seat of chronic fibrous changes in a case of scleroderma, and urges strongly the view that this disease as well as myxedema and exophthalmic goiter are due to dysthyreosis; but this present case is the first one in which an actual diminution of the active constituent of the gland has been demonstrated. Pisko, Marsh, Steglitz and Grünfeld obtained good results with thyroid treatment in various forms of scleroderma, and Marsh and Grünfeld saw in the sudden improvement something more than a mere coincidence. On the other hand, Franke, Unna and others have had negative results. In connection with this the relation of the thyroid to myxedema becomes significant. The changes in the skin in myxedema vary, but it seems established that the elastic tissue is increased and the collagenous tissue diminished. Now, if athyreosis can produce such changes there can be no inherent reason why disthyreosis, due to various causes, may not lead to scleroderma. In this case it lies temptingly near to assume that the endarteritis of the thyroidal vessels may have been the essential cause of the changes in the thyroid and, in accordance with the suggestions already made, indirectly of the scleroderma. Arterio-sclerosis might, it would seem, lead to parenchymatous atrophy and fibrous growth in the thyroid as well as in other organs. Viewed from this point the arterio-sclerosis would seem to play an indirect but essential part in the genesis of the diffuse scleroderma of the old rather than the direct rôle advocated by Dinkler and others. The causes that may disturb the functions of the thyroid and the results thereof are various, and it seems warranted to suggest that the relations of arterio-sclerosis, dysthyreosis and scleroderma merit further study.

ACTINOMYCES-LIKE BODIES IN THE TONSILS.

Dr. J. W. Ellis—While studying a series of tonsils in the pathologic laboratory of Rush College my attention was called to an article which appeared in the *Zeitschrift für klinische Medicin*, Vol. 30, parts 5 and 6, which in substance is as follows: "In the histologic examination of twenty-five tonsils from patients suffering from various diseases, as tuberculosis, syphilis, sepsis, chlorosis, broncho-pneumonia, acute tonsillitis, etc., he found in four cases from Gerhardt's clinic bodies which resembled actinomyces."

The diseases from which these patients suffered bore no relation to the tonsils. The ages of the patients varied from 7 to 22 years.

These bodies to the naked eye were small yellowish specks. The microscope revealed the fact that there were only a few in a section—never more than six—and that they were invariably found in the crypts of the tonsil. They stain with the ordinary hemotoxylon stain, and are round or oval and from .5 to 1 mm. in diameter. The center had the appearance of a tangled mass, while the periphery had a more or less clubbed appearance. By Gram's method the body was seen to be made up for the most part of longer or shorter threads, and distributed throughout the mass were seen cocci-like particles, which also retained the stain. The tangled mass of threads in the center under the highest power was seen to be composed of more or less curved staves, which were seen to be continuous but did not stain at the point between the staves. Toward the periphery the threads radiated, branched and stained more evenly, while the outer threads were stained throughout.

On counter-staining with a body stain the whole mass appeared to be bedded in a homogeneous mass with brighter spots.

The bodies did not stain by Günther's modification of Gram's method. In the vicinity of the bodies there was more or less round cell infiltration, but he did not think it was due to the presence of the bodies as the tonsil from the opposite side showed the same round-cell infiltration, but he did not find the bodies. He concludes from their frequency—four cases in twenty-five and their not producing any change in the adjacent tissue—that they do not have any pathologic significance. He classified them among the ray fungi, and according to Tarni they are a form of actinomyces and are to be differentiated or distinguished from the actinomyces Horninis by not staining with Günther's modification of Gram's method. I have placed some sections of an apparently healthy tonsil which contains some bodies that answer the above description under the microscope for your inspection.

Notice to Physicians and Librarians of Public Medical Libraries.

[Medical Journals are requested to copy this notice.]

1. Correspondence in relation to the enterprise should be addressed to Dr. Geo. M. Gould, 119 S. 17th St., Philadelphia.

2. Librarians of public medical libraries are requested to notice these exchange lists and to correspond direct with the advertised donors and recipients; and are also urged to forward to Dr. Gould: 1. Accurate lists of periodicals, books or pamphlets needed to complete their files. 2. Lists of duplicates which they will give other libraries or exchange for numbers desired. *Give both volume numbers and dates of periodicals.*

3. Every physician is to inspect these lists and to give the books and periodicals for which he has no further use to public libraries, and having no particular choice, to correspond with Dr. Gould in reference to their disposal, in order to secure the greatest usefulness by the profession.

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5. The conditions of all gifts are that the recipients shall be reputable organizations, composed of the regular medical profession; that the library shall be a public one—*i. e.*, open for consultation during stated times to physicians generally; and that, if unbound, the periodicals and books received shall be bound and catalogued.

6. Send nothing before corresponding, in order that the gifts may go direct from the donors to their proper destination.

7. In order to secure the best success, physicians and librarians of other countries are invited to coöperate.

8. Notify Dr. Gould of any gifts or exchanges effected.

Previous list: January 30, 1897.

DUPLICATES FOR DONATION OR EXCHANGE.

Dr. E. R. King, Muscatine, Iowa, will donate:

Medical News, 1882–1895 inclusive, bound in manilla paper and in good condition.

Dr. S. P. Deahofe, Mineral Point, Wis., will donate:

American Journal of Obstetrics, vols. 25 and 26.

Journal of the American Medical Association, Jan. 2, 1892 to Dec. 31, 1896.

Archives of Pediatrics, vols. 6, 7, 8, 9, 1889–1892.

The Bristol Medical Library, University College, Bristol, England, has the following unbound periodicals for donation:

American Journal of the Medical Sciences, 1880, complete; 1882, complete; 1883, April; 1884, Jan.; 1886, complete; 1887, Jan., April, Oct.; 1888, Jan.–March, May–July; 1890, July–Dec.; 1893, Jan.–June.

Amer. Jour. Ophthalmology, 1894, July, Oct.; 1895, Aug.

Annals of Surgery, 1889, Aug.

Archives of Surgery, 1890, April.

Asclepiad, 1884, part 1; 1885, part 4; 1886, parts 1, 3; 1890, complete; 1892, part 1.

Australian Medical Gazette, 1889, Nov.; 1896, Feb.–July, Sept.–Dec.

Australian Medical Journal, 1890, June.

Brain, 1889, Jan.; 1893, Spring–Summer.

Birmingham Medical Review, 1887, Oct.; 1889, Feb.

British and Foreign Medico-Chirurgical Review, 1853, July; 1855, complete; 1873, July; 1876, Oct.; 1877, Jan.

British Journal of Dermatology, 1889, Jan.

British Medical Journal, 1873, vol. 2; 1874, vol. 2; 1879, vol. 1; 1880, vol. 2 (except Aug. 14); 1881–85; 1886 (except June 26); 1887; 1888–89; 1890, vol. 2; 1891.

Bulletins et Mémoires de la Société de Médecine et de Chirurgie pratiques de Paris, 1894, Fasc. 2, 3.

Canadian Practitioner, 1894–96.

Centralblatt für Chirurgie, 1894, März 17–Mai 26.

Clinical Journal, 1892-3, vol. 1, Nos. 4, 5, 8, 10, 16, 18, 22, 26; 1893, vol. 2, Nos. 3, 9; vol. 3, No. 8; 1895, vol. 5, No. 19.

Cincinnati Lancet-Clinic, 1884, July 5, 12, Oct. 18, 25.
Dublin Med. Jour., 1887; 1889, Oct.–Dec.; 1890, Jan.–Oct.
Edinburgh Medical Journal, 1856, July–Dec.; 1857–58; 1859 (except Feb.); 1860; 1861, Jan.–June; 1862, July–Sept.; 1864, July–Dec.; 1867, Oct.; 1871, July–Dec.; 1872; 1888, July–Oct.; 1889, Feb.–June; 1890, July–Dec.; 1891; 1892, Jan.–Nov.
Fortschritte der Krankenpflege, 1891, April, Sept.
Hospital, 1894, June 30; 1895, March 2, Oct. 5, Dec. 28; 1896, May 2, Oct. 3.
Illustrated Medical News, 1888, Oct. 6, 13; 1889, June 15, Sept. 14, 21, 28; 1890, Jan. 4, 11, 25.
Journal of Physiology, 1894, Jan.
Index Medicus, 1889, Oct.–Dec., Index; 1890, complete; 1891, Jan.–Sept.; 1892, Sept.–Dec.
Journal of the Gynecological Society of Boston, 1871–72, vols. 5–7.
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 1890, Dec. 13; 1891, Aug. 15; 1892, Jan. 16; 1894, Feb. 17.
Lancet, 1867; 1869, Jan. 2; 1877, April 7–Dec. 29; 1878 (except Jan. 5); 1882 (except Jan. 7); 1883; 1890, Jan. 4–March 29, April 12–May 10, Aug. 2, 9, 23–Sept. 6, Sept. 20–Dec. 6, 20, 27: 1891, Oct. 24; 1894, Dec. 1; 1895, Sept. 14, Nov. 16; 1896, March 28, April 18, June 20, Nov. 28.
Liverpool Medico-Chirurgical Journal, 1886, Jan.; 1890, Jan.
London Medical Record, 1884, Nov., Dec.; 1885, complete; 1887, Aug., Sept.
London Medical Recorder, 1890, Jan.–March.
Mathews' Medical Quarterly, 1894, Jan.–Oct. (vol. 1 complete).
Medical and Surgical Reporter, 1890, May 24; 1893, April 8.
Medical Chronicle, 1885–89, vols. 2–9; 1889, vol. 10, Nos. 1–4; 1890, Nov., Dec.; 1891, Jan., Dec.; 1892, Jan.–Oct.
Medical Magazine, 1892, July, Oct.; 1893, April, Aug.; 1894, Jan.; 1896, Jan., March.
Medical News, 1890, Jan. 4; 1892, Oct. 1; 1893, April 1.
Medical Pioneer, 1894, Jan.–Sept.
Medical Press and Circular, 1893, July 19, Sept. 13; 1894, April 18, 25, June 13, July 11, 25; 1895, April 3; 1896, Aug. 12, Nov. 25.
Medical Record, 1891, Jan. 17.
Medical Review, 1892, July 30, Aug. 6.
Medical Temperance Journal, 1870, Jan., July.
Medical Times and Gazette, 1868, Jan. 4; 1869, July 31; 1880, Jan. 3–Nov. 27; 1882, May 20; 1883, June 9, 30, Aug. 25; 1884, Jan. 5, March 22–June 7, July 5, Nov. 29, Dec. 6–20; 1885, Jan. 10, July 4.
Medical Week, 1892, Dec. 16, 23; 1893, Dec. 15; 1895, Jan. 18.
Medicinische Bibliographie, 1892, April 9, Dec. 10.
Medico-Chirurgical Review and Journal, 1831, April.
Montreal Medical Journal, 1896, Jan.
Neurologisches Centralblatt, 1895, Jan. 1.
New York Medical Journal, 1895, July 29.
Nord Médical, 1894, Dec. 15.
Nouvelle Iconographie de la Salpêtrière, 1895, Jan., Feb.
Pediatrics, 1896.
Pharmaceutical Journal, 1896, Feb, 29.
Practitioner, 1868, Dec.; 1869–70; 1871, May, June; 1874, Nov., Dec.; 1875, July, Sept.; 1893, Jan.
Progrès Médical, 1892, Nov. 5.
Provincial Medical Journal, 1887, Jan.; 1889, Jan., May; 1890, Oct.; 1891, Jan.
Quarterly Medical Journal, 1894, April.
Revue Médical, 1894, Mai 20, Juin 3, Sept. 9–Nov. 18.
St. Mary's Hospital Gazette, 1895, Jan.–March, May.
St. Louis Medical and Surgical Journal, 1887, Sept.; 1889, Dec.; 1893, July, Aug., Nov., Dec.; 1894, May, June; 1895, Oct.
Therapeutic Gazette, 1886; 1887, Feb., April–Dec.; 1888, Jan., March–Oct.
Wiener klinische Wochenschrift, 1896, Mai 28.

THE ORLEANS PARISH MEDICAL SOCIETY, NEW ORLEANS, LA., HAS FOR EXCHANGE:

New York Medical Journal, 1883–85, incomplete; 1888, complete; 1889, incomplete; 1890–92, complete; 1893, incomplete; 1894–95, complete.
London Lancet, 1866–70, bound; 1871, bound and unbound; 1878, 1881–84, complete, unbound.
American Medical Digest, 1885, complete.
British Medical Journal, 1882–83, incomplete; 1886, complete; 1893, incomplete.
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 1890, complete; 1892, incomplete.
Boston Medical and Surgical Journal, 1880–85, incomplete.
Therapeutic Gazette, 1893–94, complete.
American Journal of the Medical Sciences, 1866–70. bound; 1892–93, incomplete; 1894, complete.
Practitioner, 1871–73, bound.
Retrospect of Medicine and Surgery, 1868–69, bound.
New York Medical Abstract, 1888, complete; 1890, incomplete.
Medical World, 1888, incomplete.
American Journal of Obstetrics, 1882–89, complete.
New Orleans Medical and Surgical Journal, 1892–95, complete.
Medical News, 1882, complete; 1883, one number missing; 1884–85, complete; 1886, three numbers missing; 1887, complete; 1888–90, incomplete; 1891, one number missing; 1893, incomplete; 1894, complete.
Medical Record, 1879, incomplete; 1880–81, complete; 1888, complete; 1889–94, incomplete; 1895, complete.

PERIODICALS NEEDED TO COMPLETE SETS.

THE ORLEANS PARISH MEDICAL SOCIETY, NEW ORLEANS, LA., NEEDS:

Universal Medical Journal, 1893, April.
Medico-Legal Journal, 1891, Dec.; 1892, Sept.; 1893, first half-year; 1895, second half-year.
International Medical Magazine, 1893, Jan.; 1894, Jan., Feb., March; 1895, Sept., Oct., Nov., Dec.
Journal of Cutaneous and Genito-Urinary Diseases, 1891, Sept., Oct., Dec.; 1892, April; 1893, March, June.
Archives of Pediatrics, 1890, March, April, May, July.
Medical Bulletin, 1893, June.
Annals of Hygiene, 1891, Jan.; 1893, July.
Braithwaites's Retrospect, 1859, July–Dec.; 1875, Jan.–June; 1880, Jan.–June; 1881, July–Dec.; 1890, July to Dec.
Virginia Medical Monthly, 1892, second half-year.
Glasgow Medical Journal, 1894, March.
Pharmaceutical Journal of Australasia, 1890, April, Sept., Oct.; 1895, Jan., Feb., Sept., Dec.
British Medical Journal, 1889, Feb. 2, Aug. 17, Sept. 7, Nov. 23, 30, Dec. 7, 14, 21; 1890, Feb. 15, March 8, June 28, July 5, Sept. 6, Nov. 15, Dec. 13, 27; 1892, Jan. 7, June 25; 1894, Sept. 15.
Medical News, 1890, Nov. 15.

THE JOHNS HOPKINS HOSPITAL LIBRARY NEEDS.

American Journal of Obstetrics, vol. 30, No. 2, Aug., 1894.
Archives générales de Médecine, July, 1894.
Centralblatt für Gynäcologie, vol. 18, No. 4, Jan. 27, 1894.
Gazette medical de Paris, 1894, Nos. 6, 15 and 41.
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, vol. 22, No. 11, March 17, 1894, and vol. 23, Nos. 20 and 26.
Journal of Nervous and Mental Diseases, 1894, Nos. 1, 3 and 8.
Medical Record, 1894, vol. 45, Nos. 1, 2 and 21; vol. 46, Nos. 18 and 20.
American Journal of Obstetrics, vols. 1–23.
American Medical Recorder, vols. 1–3.
Archiv für Hygiene, vols. 18, 19 and 20.
Archiv für klinische Chirurgie, vol. 37–40.
Virchow's Archiv, vols. 1–19, and after vol. 133.
Archiv für Psychiatrie u. Nervenkr., vols. 1–5.
Archives de Neurologie, vols. 1–20.
Beiträge zur klinischen Chirurgie, vols. 1–7.
British and Foreign Medical Review, vols. 15–17, 19–21, and all after vol. 24.
British Journal of Dermatology, vols. 1–3.
British Medical Journal, all previous to 1878 (1878 vol. also missing).
Centralblatt für Chirurgie, vols. 1–17.
Centralblatt für innere (formerly klinische) Medicin, vols. 1–12.
Centralblatt für Gynäcologie, vols. 1–14.
Centralblatt für d. medicinischen Wissenschaften, vols. 113, and all after vol. 26.
Deutsche medicinische Wochenschrift, vols. 1–16.
Deutsche Archiv f. kl. Medicin, vols. 1–47.
Jahresbericht der gesammten Medicin, vols. 1–23.
Journal de l'Anatomie et de la Physiologie (Ed. C. Robin), after vol. 28.
Journal of Nervous and Mental Diseases, vols. 1–9.
Medical News, vols. 1–39.
Medical Record, vols. 1, 35, 36, 39, 42.
Neurologisches Centralblatt, vols. 1–9.
New York Medical Journal, vols. 1–50.
Practitioner, vols. 1–17, 42–50.
Revue des sciences médicales en France et à l'étranger, vols. 1–8.
Revue de Chirurgie, vols. 1–10.
Revue de médecine, vols. 1–10, 13.
Schmidt's Jahrbücher, vols. 1–168.
Zeitschrift für Biologie, after vol. 28.
Zeitschrift für Heilkunde, vols. 1–10.
Zeitschrift für Hygiene, vols. 8–9.
Zeitschrift für klinische Medicin, vols. 1–18.

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Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

INFORMATION WANTED.

It would greatly facilitate the prompt delivery of the JOURNAL to those members of the ASSOCIATION living in large cities, if they would kindly furnish this office with their street address in those cases where it is omitted from the wrapper of their JOURNAL, as we have been notified by the postmasters of the larger cities that second-class mail matter not having street address, would be placed in the general delivery to await call.

SATURDAY, JUNE 26, 1897.

ANTIVIVISECTIONIST SENTIMENTALITY AND BRAIN DEFORMITY IN THE DEGENERATE.

A degenerate sexual pervert recently executed for lust murder, at Paxton, Ill., has had his mental soundness doubted because of his sentimental kindness toward animals. Sentimentality of this type is exceedingly common among criminals and other degenerates about whose legal responsibility no true alienist could entertain a doubt. They have both a knowledge of right and wrong with a power of self-control, which alone would be sufficient evidence of responsibility under the true legal test which depends on whether freedom of the will be impaired. Despite the assertions of the antivivisectionists, misanthropy is often associated with great love for the lower animals, and the races characterized by their great tenderness toward animals are the most cruel toward men. This was singularly well illustrated in the Sepoy rebellion, where fanatics indignant at the killing of cows, butchered men, women and children with horrible atrocity. The same thing is illustrated in the suspicional world-betterers who so marred the French Revolution. COUTHON, one of the most merciless of "the committee of public safety," was very much devoted to spaniels. CHAUMET exceeded female sentimentality in his tenderness to his birds. The murderous FOURNIER carried on his shoulders a pretty little squirrel attached by a silver chain. PANIS was intensely devoted to his pheasants. MARAT reared doves. SERGENT, another agent of the Reign of Terror, was also devoted to spaniels. A lady came to implore his protection for a relative confined under sentence of death. He scarcely deigned to speak to her. As she retired in despair she trod by accident on the paw of his favorite spaniel. SERGENT, enraged and furious, exclaimed, "Madam, have you no humanity?" It may seem, as HAVELOCK ELLIS remarks ("The Criminal"), a curious contradiction of what has been set down concerning the criminal's moral insensibility, his cruelty and his incapacity to experience remorse when it is added that he is frequently open to sentiment. It is however true. Whatever refinement or tenderness of feeling criminals attain, reveals itself as what we should call sentiment or sentimentality. Their cynicism allies itself with sentiment in their literary productions. Their unnatural loves are often sentimental as revealed in the character of the tattoo marks. Two interesting examples of criminal sentiment have recently been recorded by Dr. LINDAN. A German criminal (it is perhaps as well to note that he was a German) having murdered his sweetheart most cruelly, went back to her house to let out a canary which might suffer from want of food. Another, after having killed a woman, stayed behind to feed her child which was crying. LACENAIRE, on the same day that he committed a murder, risked his own life to save that of a cat. BULWER recognized this principle when he depicted EUGENE ARAM as very indulgent to animals. WAINEWRIGHT was always very fond of cats. In his last days his sole companion was a cat, for which he evinced an extraordinary affection. One of the chief characters of WAINEWRIGHT'S essays is their sentimentality. Himself when in prison he described as the possessor of "a soul whose nutriment is love and its offspring art, music, divine song and still holier philosophy." All prisoners make a pet of birds or animals or flowers if they get the chance.

In the brain of the degenerate, to whom reference is made, the cerebrum was said to be abnormal because it did not cover the cerebellum. This condition of things was alleged by BENEDICT of Vienna ("Brains of Criminals") to characterize the brain of the criminal. It has been demonstrated, however, conclusively by SPITZKA (*American Journal of Neurology and Psychiatry*, Vol. I) that this non-covering of the cerebellum by the cerebrum in man and the anthropoid apes was due not to any condition of deformity but to careless manipulation. If therefore this condition be found in the degenerate to whom reference has been made, it is due purely to an erroneous necropsy and in no respect is an evidence of either irresponsibility or degeneracy.

SICKNESS AND WOUNDS IN THE SPANISH ARMY IN CUBA IN 1896.

Inspector General DE LORADA of the sanitary corps of the Army of the Island of Cuba has instituted and

published a graphic comparison of the sanitary condition of the Spanish troops in Cuba in the years 1876-77 and 1896, which shows markedly in favor of the latter year. In the absence of satisfactory statistical data of the earlier campaign the first four months of 1876 and the second and third of 1877 were taken to make the comparison. The publication consists of a large sheet on which are fourteen tables showing by red and blue lines on a graduated scale the data for each month of the respective years. Excepting cases and deaths from yellow fever and wounds in relation to strength, the statistics indicate the existence of better conditions now than formerly. As regards yellow fever it is to be remembered that the greater part of the army in 1876–77 consisted of acclimated men, while the excess of wounds in recent campaigns is due to the greater activity of the troops in field service against the insurgents. It is difficult to read the exact figures from the numbers on the plates, but the following gives a close approximation: 1. Number of sick per 1,000 of strength. The rates in both years were relatively low from January to June and high during the remaining months. In 1896 the low monthly rates ran from 115 to 160 per 1,000 of strength as compared with 165 to 260 in 1876–77, and the high rates from 210 to 318 as compared with 325 to 392. The annual rate was about 2,400 per 1,000 in 1896 as compared with 3,400 during the earlier year. 2. The highest monthly death rate in the past year was 11.7, in August, while in 1877 this rate was greatly exceeded in each of the five months July to November, the highest rate being 28 in September. The annual death rate was about 74 in 1896 as compared with the former excessive rate of 160 per thousand of strength. 3. The fatality of disease or the number of deaths per thousand of sick varied in 1896 from a monthly minimum of 15 to a maximum of 54 as compared with a minimum of 22 and a maximum of 75.2 in 1877. 4. This diagram shows the greater prevalence of yellow fever in 1896, the monthly rate of cases per thousand of strength varying from 4 to 12 during the first half of the year and from 18.8 to 36.8 during the last half as compared with rates somewhat less than half as large in 1876–77. Aggregating these monthly rates the rate for the past year among the unacclimated recruits sent out from Spain was 211 as against 70 among the troops operating in the island twenty years ago. The 5th diagram represents the deaths from this fever, 51.9 per thousand of strength during the year 1896 and only 33.2 in 1876–77. But although the prevalence and mortality of this fever was greater among the unacclimated troops during the present campaign the virulence of the disease was not so active in individual cases, for the rates of deaths to cases are shown by table 6 to have been greater in 1876–77, the average fatality rate having been 40.1 per cent. as against 25.8 per cent. in 1896. Table 7 gives the wounds in monthly rates per thousand of strength and shows a very uniform occurrence in all the months of both years, as if active operations had been carried on in the unhealthy as well as in the healthy seasons. The annual rates amount to 47.7 per thousand of strength for the year 1876–77 and to 121.1 per thousand for 1896. The death rate from wounds in relation to strength also was greater in the present campaign; but the deaths therefrom, in relation to the number of wounded was considerably larger in 1876-77 and the term of hospital treatment for both sick and wounded was much more extended in that year than in 1896. These facts are shown in tables 8, 9 and 10. Tables 11 and 12 give the rates per thousand of strength and per thousand of sick returned to Spain for recuperation. In both instances the summary is distinctly in favor of the year 1896. The last two tables give the rates of discharge for disability per thousand of strength and per thousand of sick. In 1896 the annual rate of discharge was 14.6 per thousand of strength and in 1876–77 16.65; per thousand of sick the rates were respectively 81.7 and 65.9.

THE TWENTY-SECOND ANNUAL MEETING OF THE AMERICAN ACADEMY OF MEDICINE.

This meeting was held in Philadelphia, May 29 and 31. Large accessions were made to its membership, and an unusual number took an active part in the proceedings.

The work of the Academy is distinctively along lines of medical sociology. At first these lines related mainly to the one object of increasing the general mental culture of students desiring to enter upon the study of medicine. Medical societies and medical journals took up the work, until at present the Academy's primary object is largely attained; most medical colleges have some sort of entrance examination; some a high one, and one admits only those possessing a degree of A. B. Others announce that such a degree will be demanded in the near future. More will follow until a satisfactory preliminary training will be exacted of every medical student ere beginning the study of medicine. In this result the Academy as a whole and its individual members have been an important factor.

After some years it broadened its studies and efforts, so that it now includes the whole range of medical sociology. It is believed that definite laws regulate the relations of physicians to each other, to the public, to medical schools, to hospitals and dispensaries, to medical journals and medical publishers, to secular journals and secular publishers; to pharmacists, to retail and wholesale manufacturers; to the defective classes; to schools, from the kindergarten to the university, etc., in short the laws of medical sociology start from the physician as a center and ramify

throughout all professions, callings, enterprises, medical or secular.

When it is remembered that obedience to law brings profit, comfort and prosperity, and disobedience strife, loss, disease, death, untold misery and confusion, it is evident that a knowledge of the laws of medical sociology is of the highest practical moment. To the investigation of these the Academy has devoted itself, with some tangible results that have promoted the work of many individuals and some medical societies and institutions.

Among the subjects discussed at the late meeting were two groups: the first dealing with the "associated duties of the physician," the second "the relation of the college to the medical school." On the first were ten papers treating of "the true principles on which the medical profession should be associated," "physicians' mutual societies," "the rewards of medical work," "a sociologic inquiry of the up to date physician," "the relation of the physician to the public press," "some relations of author, publisher, editor and profession," "medical reviews," "the influence of a liberal education with reference to medical ethics," "the organization and support of medical libraries," etc.

The relation of the college to the medical school was discussed from the medical-school side by Dr. BAYARD HOLMES, from the side of the college by President WARFIELD of Lafayette College; and from the side of the university by Dr. PEPPER, Ex-Provost of the University of Pennsylvania. It is certain that these papers with the discussion following will materially aid such as are honestly seeking for light upon the best training of medical students. It was both broad and deep, beyond what is usually heard in medical societies, and along lines of scientific inquiry. Only when such lines are made to accord with the nature of existing things can the highest prosperity of the profession be expected.

From this brief statement it will be seen that the Academy is the rival of no existing medical society, but that it supplements and complements all, and so merits the support and consideration of such as are seeking for light on the intricate and obscure relations of the physician's vocation.

Its officers for the ensuing year are Dr. L. DUNCAN BULKLEY of New York, President; Dr. JOHN B. ROBERTS of Philadelphia, Dr. BOWDITCH of Boston, Dr. CHARLES DENNISON of Colorado, and Dr. F. T. ROGERS of Providence, Vice-Presidents; Dr. CHARLES MCINTIRE, Boston, Secretary and Treasurer; Dr. WALTER L. PYLE, Philadelphia, Assistant Secretary.

SECTION ON NEUROLOGY AND MEDICAL JURISPRUDENCE.

This is one of the younger Sections of the AMERICAN MEDICAL ASSOCIATION, which has already attained prominence, and will no doubt in the near future rival all the other Sections in interest and popularity. Questions of neurology and jurisprudence are increasing in every department of practical medicine. The new researches of brain physiology give promise of therapeutic revolutions as startling as in any other field of medicine. At the Philadelphia meeting fifty-one papers were read by the authors and by title. Of these only three related to medical jurisprudence, three to the influence of alcohol on the brain and nervous system, and two to hypnotism. Seven papers were devoted to neurasthenia and its treatment, and three to insanity. The other papers were mostly devoted to diseases of the spinal chord and brain. The authors of the latter were very largely teachers of neurology, and were expected to present the latest and most authoritative facts on these topics. How far these papers together exceeded the papers read at previous meetings of the Section, can not be easily determined. Evidently they were more technical, and confined to the more obscure lesions of the brain and cord. Some of these papers had a pedagogic cast, indicating unfamiliarity with audiences of general practitioners, and inability to isolate and emphasize the central facts of the topic. Many excellent studies are covered up and made useless in all the Sections, by the inability of the reader to reach the level of his audience, and condense his facts so they can be understood without effort. The popularity of the Neurological Section has come from the fact that its wide range of topics have been presented by practical men and specialists, who avoided all effort to exhaust the subjects and sought rather to make prominent some particular facts. This has given a certain suggestiveness to the papers which were stimulating to all hearers. Several papers read at this meeting were prominent in this respect and will be read in the JOURNAL with great interest.

The officers and leading men in this Section have long ago recognized the need of more practical helpful papers to the general practitioner and members of the ASSOCIATION who yearly come to the meetings for facts and hints that can be used in a general every-day practice. It is proposed to have the same Secretary elected every year, so he can become familiar with the leading men of the country who are members of the ASSOCIATION, and able to contribute strong papers on the topics of the Section. This will be a great improvement over the present methods, and enable the Secretary to arrange and bring out certain topics more fully than in any other way. Symposiums of questions still unsettled can be arranged and carried out, and special topics can be presented by leaders not readily accessible to a new unknown Secretary. It was proposed to devote one or more sessions to medico-legal questions exclusively, and have certain topics uppermost in the

public mind discussed. This will give a certain solidity and permanence to the work of the Section, which will be followed by others.

There are probably more difficult unknown questions coming up in every branch of practice concerning neurology and jurisprudence than in any other field. The medical teacher will give general principles, but he is unable to go beyond certain narrow lines. The new problems that are ever coming up require the study of matured practical men, and discussion from all sides. This is often aptly illustrated in sectional meetings where live topics bring out most suggestive spirited discussions.

This Section, in common with other Sections, suffer from the reading of papers which are technical exhaustive studies of some narrow phase of the subject, which are of little interest, even to experts. Such papers always drive away the audience or put them to sleep. There are some quite prominent men whose papers are so minutely exhaustive, as to destroy all practical interest in the subject. Others equally learned have such an involved, obscure style, that it requires much effort to follow them. Often such writers present many original views which are covered up and lost except to some careful student who discovers them and announces them as his own. There follows an acrimonious debate of priority. The Neurological Section has started a movement to reform these errors, and at the next meeting will attempt to lead all other Sections in broad, practical studies and presentations of papers which will be both suggestive and helpful to all its hearers.

THE OCULAR MANIFESTATIONS OF MALARIAL INFECTION.

The general practitioner of medicine, accustomed as he is to the discovery of lesions in the spleen and liver as the result of acute or chronic malarial infection, is also apt to ascribe symptoms which seem difficult of explanation to the same causative factor when, in a certain proportion of cases the condition arises from very different causes. On the other hand it is possible that he is not ready enough to ascribe lesions of special organs to this cause and regards troubles arising in the eye or ear as coincidences rather than direct results.

One of the most interesting manifestations of malarial infection, aside from the pathognomonic types so well recognized, is the effects which may be found in the eye of certain susceptible individuals, and it is also of interest to note that in malarial disease the various tissues composing the eye may each or all of them become involved. This is but natural when we recall the fact that the ocular apparatus is composed of parts which represent almost every tissue found elsewhere in the human being.

While malarial disease affecting some part of the eyeball is somewhat rare, and still more rarely recognized by the general practitioner, it is a condition of by no means recent observation, for as long ago as 1828 HUETER wrote two papers upon it and the next forty years brought forth ten other papers in the *Annales d'Oculistique*. In many instances the observers of the case, or cases, were ophthalmologists of note, such as LANDOIS, DERBY and PAGENSTECKER. Still more recently cases have been recorded by MILLER and other clinicians, and a classic paper giving a complete summary of the subject has been compiled and published by G. E. DE SCHWEINITZ of Philadelphia.

Ophthalmia is by no means infrequently met with in malarial subjects and is often associated with malarial neuralgia or brow ague, and PAGENSTECKER records cases which were sometimes associated with paralysis of accommodation. Again, it is evident that a malarial keratitis may arise in distinction from the inflammation of the cornea which is so apt to occur to persons whose general health is seriously impaired, although, of course the latter condition is often seen and, as well emphasized by KIPP of Newark, N. J., in 1880 and 1889, the malarial form of keratitis consists in a very large proportion of cases in a peculiar narrow, serpiginous, superficial ulcer with lateral offshoots, accompanied by much lachrymation and often beginning with great supra-orbital pain. The greatest number of these cases occurred in the summer and fall months of the year. KIPP'S studies not only deserve careful reading because of their thoroughness, but in addition it is to be recalled that HOTZ of Chicago, MILLER of Providence, and NOYES of New York, and MINOR have largely confirmed his observations. The practical deduction to be drawn is that when keratitis takes place in a patient with a malarial history, even if no other malarial manifestation be present, quinin and arsenic are to be given with the object of combatting the malarial germ, if it be present, or at least improving the general health and overcoming cachexia.

Iritis while possibly produced by malaria is rare, and gout, rheumatism, syphilis, and particularly pyemia, should be excluded from the diagnosis before this form of inflammation is ascribed to infection by the hematozoon. It is, however, in connection with the subject of amblyopia and amaurosis and the changes which take place in the nervous portions of the eye that the influence of malarial infection develops the greatest interest. These symptoms are of great importance, too, because full doses of quinin may readily produce them, and it may be necessary for the physician to determine whether quinin is needed to combat a malarial amaurosis, or is contraindicated, because the doses which may already have been given have acted excessively on the optic nerve and the blood vessels of the eye on account of idiosyncrasy on the part of the patient. Again, it is not to

be forgotten that the amaurosis in such cases, even if a distinct malarial history be present, is pehaps more apt to be due to renal disease than directly to malaria. The examination of the urine will aid very greatly in excluding the renal possibility and the ophthalmoscopic appearances of the retinal arteries and color fields; the quinin amblyopia, from that due to malarial disease. In the latter condition we find edema of the end of the optic nerve, neuritis, optic atrophy, retinochoroiditis and finally hemorrhages into the retina and even into the vitreous. These hemorrhages may, however, be present without neuritis, as reported by JONES and by BRUNS of New Orleans, the hemorrahages being usually near the disc and by the side of the greater vessels. Actually optic atrophy is very rare but has been recorded by BULL of New York and by MCNAMARA and CARTER.

The most common lesion in the vitreous and choroid is hemorrhage.

THE MEMBERSHIP LIST.

In our issue of June 12 we printed the list of members of the AMERICAN MEDICAL ASSOCIATION revised up to May 15, 1897. Many additions to this number were made at the Philadelphia meeting, and a supplementary list will be published as soon as these names are received. Those who have discovered any inaccuracy in the manner in which their names or date of joining the ASSOCIATION appeared in the record will confer a favor by sending in their corrections at once to this office, as a list of corrections will soon be published.

CORRESPONDENCE.

Medical Instruction of the Laity in the Lay Press.

ELMDALE, KAN., June 14, 1897.

To the Editor:—I have watched with some interest the comment on Dr. Shastid's letter as it appeared in Vol. 28, No. 17, of the JOURNAL. I can well see why it is a subject of no particular fascination to the profession, and why therefore it is so adversely criticised. It is not only in the columns of the professed advertiser, but also from the pens of men who from their positions successfully dispute the epithet of anything but leadership in the profession, that we have seen more than would be characterized by the term diplomacy. I refer to health officers of distinguished cities and heads of hospitals, public, endowed and private. However well meant some of these contributions (signed) to the lay press may be, they yet carry so much of the stigma of the advertiser that the profession can not fail to be insulted by their odium. And yet it takes no special effort on the part of the practitioner to see the great need of improvement in the conceptions of matters connected with medicine in the minds of the laity.

All know how common it is to see all sorts of filthy lotions and linens applied to the open wound. And who has not known the kindly intention of the would-be good Samaritan thwarted, as with unwashed hands and through septic parts she makes the digital examination of the parturient to at least show her good intentions. Labor over, the parts are again inspected with the same want of cleanliness, a filthy piece of linen applied to absorb the discharges, and to avoid "taking cold" instructions given to not change the soiled linens of the bed for twenty-four to forty-eight hours, and not touch a drop of cold water with finger or lip. At the end of several days a chill, and with the heavy weight of remorse the patient confesses that being so uncomfortable she thought there would be no harm from it and after twelve to twenty hours she did put on fresh linens. How often are stimulants given in cases noted for their sthenic character or the congestion of middle-ear disease reinforced by agents that stimulate the cerebral circulation? A man with typhoid came under my care, who to cure the malady, had bought a gallon of brandy and consumed the greater part of it in two days during the stage of excitement. The over-stimulation resulted in exhaustion, so that in spite of the most vigorous efforts to support the heart it quickly failed and the patient, a strong man, died in a few days and about the fifth or sixth day of the fever. A child 7 years of age with pain in the right ear from inflammation of the middle ear was given ten grains of quinin and not only the right but both middle ears suppurated.

The use of medicine prescribed by the laity should be stigmatized as dangerous and the reasons for the same given. Quinin improperly used may be as potent for evil as properly used for good. We can not hope to make doctors of the laity and the plan of instruction must be principally toward restraint in self-medication.

The method of Dr. Shastid seems quite ingenious, though it is certainly necessary that the public understand that the literature thus supplied is by worthy authority. This could easily be so by signifying the authority of the AMERICAN MEDICAL ASSOCIATION, which would soon be understood to be the very highest possible authority, and an authority the honor of which every worthy physician may share. As to a point raised in one of the comments, I did not understand Dr. Shastid to mean that the literature thus supplied should be without remuneration to the writer, but that the press should not compensate the writer. And personally, I see no good reason why after remunerating the writer for his services, the articles then becoming the property of the ASSOCIATION, the ASSOCIATION should not through a duly authorized committee, as for instance, the editorial staff of the JOURNAL, receive a fair sum for the literature. But no individual names should ever be in any way connected with the articles. It is quite sufficient to know that they are authorized by the AMERICAN MEDICAL ASSOCIATION. This class of literature is not without value to the newspapers, and with the assistance of the Associated Press there would be no trouble to give it the widest possible distribution. J. F. SHELLEY, M D.

Railroad Transportation.

BROOKLYN, N. Y., June 15, 1897.

To the Editor:—I send the following clipping from the Brooklyn *Times*, June 15, 1897, to the JOURNAL, to call it to the attention of the Committee on Transportation: "SINGLE FARE FOR THE ROUND TRIP TO PHILADELPHIA VIA PENNSYLVANIA RAILROAD ON ACCOUNT OF THE NATIONAL SAENGERFEST.—The Pennsylvania Railroad Company announces that for the Eighteenth National Saengerfest, to be held in Philadelphia June 21 to 24, 1897, it will sell excursion tickets to Philadelphia from all points on its line June 19 to 23 inclusive, good to return until June 26, 1897, inclusive, at a single fare for the round trip. No rate, however, will be reduced to less than 50 cents." Respectfully, N. W. L.

Twelfth International Medical Congress.

NEW YORK, June 14, 1897.

To the Editor:—The undersigned, chairman of the American National Committee which was established at the request and under the authority of the General Committee of the Twelfth International Medical Congress, begs to inform the numerous gentlemen who are constantly applying for information concerning certificates, trip, fares, hotels, etc., that he has none to give, not having heard from the General Committee these two months. Very respectfully, A. JACOBI, M.D.

ASSOCIATION NEWS.

Report of the Rush Monument Committee.—Albert L. Gihon, A.M., M.D., Medical Director U. S. Navy (retired), Chairman of the Committee, submitted the following report at the recent meeting of the ASSOCIATION:

After what the President of the ASSOCIATION has said, a brief report from me as Chairman of the Rush Monument Committee is only necessary. In fact, what have we to report?—that $75,000 have been subscribed for the erection of a monument in the city of Washington—that designs have been solicited from the most distinguished sculptors in the country and that one of these has been selected, which has met with universal praise for its beauty and artistic excellence, and that steps will soon be taken to put this design in marble and bronze? Alas! the name that will be engraved upon the pedestal of that monument will not be Benjamin Rush, but Samuel Hahnemann, and the future visitors to the Capital of the United States will look upon this exquisitely beautiful unrivaled work of art, and then when they go to visit the splendid U. S. Naval Museum of Hygiene, will see standing conspicuously at its approach, on a knoll in the park fronting it, at the site generously donated by the Government last year, an humble figure, a mere bust in bronze, the evidence of the liberality and measure of the appreciation of "the greatest physician this country has ever produced" by the hundred thousand and more members of the medical profession in the United States. Oh! brethren, pitiable contrast! What physician can ever go to Washington and look upon these two statues—the one costing $4,000, the other $75,000—the one the contribution of a hundred thousand men, the other of six or seven thousand; the one the result of thirteen years of ceaseless importunity, entreaty and personal appeal, the other originated and the funds spontaneously subscribed in less than four by a few sectarians, without a feeling of shame and humiliation? Today I ask you, shall this be? And it is the last appeal I shall make, for I am admonished of the uncertain tenure of life by my own desperate illness of last winter and this spring, and by the fact that six of the nine projectors of this monument already sleep the sleep that knows no waking. Only last week, a few thousand employes of the Manhattan Elevated Railway Company of New York, a few poorly paid ticket-sellers, guards and gatemen, dedicated a monument at Danville, Pa., to their late vice-president and general manager, Colonel Hain, which cost $3,500 (only $500 less than our own fund), which was raised by voluntary subscriptions during the twelve months after his death. If the ASSOCIATION did not intend to carry out this project in good faith, why did it deliberately and unanimously resolve at its meeting at Washington in 1884, "That this ASSOCIATION undertake to erect a statue to Dr. Benjamin Rush in the city of Washington by the members of the profession of medicine in the United States," and why has it, year after year, renewed with no less enthusiasm and unanimity its indorsement of the project? I hold the honor of the ASSOCIATION is at stake and the time has come for final decisive action. During the past winter, an appeal was issued in these terms, and I can not command language more direct and emphatic:

MY DEAR DOCTOR:—The remarkable success of the relatively small body of Homœopaths in the United States, in collecting $75,000 for their monument to Hahnemann, to be erected in Washington, ought to make every reputable regular physician in the country keenly alive to the necessity for promptly subscribing to the fund for the long-delayed monument to Benjamin Rush.

The model for the monument to Hahnemann, which has been on exhibition in New York City, has attracted general admiration on account of its great beauty and artistic excellence, which will make it unrivaled as a work of this kind.

The regular medical profession, numbering over one hundred thousand more than the entire body of Homœopaths, has thus far subscribed less than $4,000 toward the projected monument to Dr. Rush, for which the Navy Department has already generously designated a commanding site in the park fronting the U. S. Naval Museum of Hygiene, where it will be one of the most conspicuous features of the National Capitol.

Are the regular physicians of the United States willing that this illustrious Signer of the Declaration of Independence and the distinguished hero of the Revolution, shall be commemorated by an insignificant bust or a mediocre statue, in pitiable contrast with the splendid testimonial at their Capitol city to a foreign theorist by a comparatively small body of his misguided followers?

The crowds of visitors to Washington can not fail to attach disparaging significance to the spectacle of these two monuments; and we appeal to you to aid the Committee in its endeavor to do justice to the memory of this great father of American Medicine, pure and undefiled, by sending *by return mail* to either of the undersigned as large a contribution as you may be able to make.

Albert L. Gihon, M.D., Chairman R. M. C., 8 West 127th Street, New York City. George H. Rohé, M.D., Secretary and Treasurer, R. M. C., Sykesville, Md. W. Murray Weidman, M.D., Chairman of R. M. Committee for Pennsylvania, Reading, Pa. Henry D. Holton, M.D., Treasurer American Public Health Association, Brattleboro, Vt. Charles McIntire, M.D., Secretary-Treasurer American Academy of Medicine, Easton, Pa.

Thousands of copies of this appeal were distributed and the Committee earnestly hoped that thousands of dollars would be subscribed, but the fund which amounted to $3,787.64 has only increased to $4,006.19, and this partly from interest on the amount invested.

What is the explanation of this indifference? At the fortieth annual meeting of the ASSOCIATION at Newport, Rhode Island, Dr. William Pepper, then Provost of the University of Pennsylvania in his eloquent address on Medicine, made Rush his theme and eulogized his remarkable career. Those of you who were present on that occasion must remember the loudly expressed commendation of his statements and the hearty endorsement of the projected movement. A large part of the existing fund was subscribed at that time by members present. At the meeting in Baltimore in 1895, the report of the Committee was received with the most enthusiastic approval. It was then that Dr. Henry D. Holton of Brattleboro', Vermont, who deserves to be President of this body for that act alone, arose amid the applause that followed the reading of the report and warmly seconding the sentiments expressed in it, offered himself as one of one hundred members of the ASSOCIATION to subscribe $100 each for the fund. His offer was quickly followed by similar tenders of $100 each on the part of Dr. William H. Daily of Pittsburg, Dr. U. O. B. Wingate of Wisconsin, Dr. Henry O. Marcy of Boston, Dr. James M. Keller of Arkansas, Dr. S. M. Free of Pennsylvania, Dr. Jerome Cochran of Alabama, Dr. Alonzo Garcelon of Maine, Dr. J. M. Ridge of New Jersey, Dr. I. N. Love of Missouri, Dr. B. D. Evans of New Jersey, Dr. Donald Maclean of Michigan and Dr. O. B. Will of Illinois. Dr. J. M. Reeves of Tennessee and Dr. A. C. Cotton of Chicago, gave $50 each, and Dr. Patrick Espy of Norwich, Conn., gave $25. Then Dr. John A. Wyeth of the city of New York arose and offered to be one of five other men to subscribe $500 each, while your worthy President of today quietly slipped $100 into my hand, begging me not to announce his name.

Is it the fact that there are not five other men in the profession able to meet Dr. Wyeth's gage? Are there eighty-seven others whose means permit them to follow Dr. Holton's and his twelve companions' lead in guaranteeing $100 each? If there are, the matter is a *fait accompli*. Had these offers been met, or if they shall now be met, our fund will amount to $17,000 instead of $4,000. There ought to be at least fifty cities in the United States, whose physicians simply or in the aggregate are able to contribute from $200 to $500 each to this fund, and fifty others $100 each. There are medical societies enough in the United States which can subscribe, if only a moderate sum each, an aggregate sufficient to send a creditable if not a magnificent statue.

The Committee has exhausted its own resources and it now appeals to the ASSOCIATION to determine at once and definitely what further steps shall be taken. It is not to be believed that the ASSOCIATION has been insincere in its approval of the project, or that it repudiates the indorsement it has annually given to it without a dissenting voice during the past thirteen years. That assumption would be unworthy the dignity and reputation of this, the great national representative body of the profession of medicine in the United States. Neither Marion Sims nor Samuel D. Gross—of whom statues have already been erected, that of the latter began since our own and unveiled and dedicated less than a month ago—had the claims of Rush to national recognition, and if their admirers, students and colleagues could so commendably commemorate them why should not the great body of the profession honor the memory of this illustrious medical hero of the Revolution?

I do not believe there is another profession, trade or occupation, which could claim such a man as its Revolutionary hero, which would not long ere this have honored him not in bronze or granite but in the purest marble ever quarried in Carrara. Benjamin Rush was first intended for the law, and had this choice been adhered to, to what high eminence might he not have attained? To the non medical reader of history, his brilliant attainments and life-long devotion to the public good, would seem to entitle him to the admiration and high regard of his professional brethren for all time, but what do we see in truth? A great ASSOCIATION professing this admiration and regard, resolving to render him the honor he deserves, appointing a Committee to execute their resolves, and then turning indifferent to that Committee's pleadings for the means to do.

Benjamin Rush was no ordinary man. He was not one among ten, nor one among a hundred, but one among a thousand of the patriotic sons of America, who sowed the seeds of

liberty in this country. He was *the one* par excellence—the illustrious, incomparable physician, who having made himself master of his craft by long study, devoted himself to its higher development and became famous as its expounder; who, when his country required his services, with equal alacrity and whole-souled purpose gave them to her and became famous as her defender; who, when the crisis was over and the new Republic became an established government, resumed his professional work and in a hundred ways and a hundred years in advance of his time sought to improve social and sanitary conditions, and became famous as a great reformer, philanthropist and sanitarian; who doing all this faithfully performed the duties of his calling as a practitioner of medicine and sought to minister to his suffering fellow citizens at the hazard of his own life, which he at last offered up a victim of the prevailing epidemic of typhus—and became famous for his heroic martyrdom.

But you all know this. Year after year you have listened to the recital of the incidents of his remarkable career. While it is enough in most men's lives to have one special class of individuals interested in their achievements, this man claims the homage of every lover of his country because of his courage in maintaining its liberties at the hazard of his life—of medical military men especially, because he was the surgeon-general of the Revolutionary army and vigorously insisted upon the proper organization of its medical department—of practitioners of medicine because of his acquirements and skill as a practitioner—of the literary world because of his attainments as a chaste and elegant writer—of scholars and professors because of his ability as lecturer and teacher.

If, however, the members of the profession are unwilling to contribute to this memorial I do not see how they can be coerced into doing so, and since the project has gone too far to be abandoned, better legislate an annual subscription by the ASSOCIATION for a term of years, until a sufficient sum shall have accumulated to erect a monument worthy the subject and creditable to yourselves. Failing this, your Committee can only proceed to use the fund in hand, small as it is, for such a simple bust in bronze of heroic size upon a granite pedestal as can be procured for the money.

Your Committee reports the facts as herein stated and awaits your instructions. All of which is respectfully submitted,

ALBERT L. GIHON, M.D.
Chairman Rush Monument Committee.

[For action on this report see minutes, JOURNAL p.p. 1140-1.]

Competition for the Senn Medal.—Pursuant to a resolution adopted by the Section of Surgery and Anatomy of the AMERICAN MEDICAL ASSOCIATION, June 4, 1897, I have been appointed by the Chairman, Dr. Reginald H. Sayre, as Chairman of the Committee charged with the awarding of the Senn Medal for 1898. The other members of the Committee are Drs. H. O. Walker of Detroit, Mich., and S. H. Weeks of Portland, Me.

1. A gold medal of suitable design is to be conferred upon the member of the AMERICAN MEDICAL ASSOCIATION who shall present the best essay upon some surgical subject.

2. This medal will be known as the Nicholas Senn Prize Medal.

3. The award shall be made under the following conditions: *a.* The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device to be read at the meeting at which the award is made, and the corresponding envelope to be then and there opened and the name of the successful author announced. *b.* All successful essays become the property of the ASSOCIATION. *c.* The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the ASSOCIATION. *d.* The competition is to be confined to those who at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the AMERICAN MEDICAL ASSOCIATION. *e.* The competition for the medal will be closed three months before the next annual meeting of the AMERICAN MEDICAL ASSOCIATION, and no essays will be received after March 1, 1898.

Competitors will address their essays to the undersigned

J. MCFADDEN GASTON, M.D., Chairman.
1½ Edgewood Ave., Atlanta, Ga.

The Excursion to Atlantic City.—Among the enjoyable features of the Jubilee meeting was the trip on the last day to Atlantic City, where over a thousand availed themselves of the benefits of the excursion.

The members were met at the depot by a large delegation of citizens, and about an hour later were assembled at the Brighton Casino, where a meeting in their honor was held, with Dr. Marvel in the chair. Dr. W. Blair Stewart escorted the speakers to the stage and presented Mayor Stoy, who welcomed them in a short but interesting address. Dr. Thomas K. Reed, the oldest resident practitioner of Atlantic City, delivered a formal address of welcome, which was listened to with close attention and much appreciated.

Dr. Stewart then introduced Dr. James North in flattering terms as the poet laureate of the city. Dr. North welcomed his fellows as follows:

Friends by the sea! Where once he loved to stray,
Great Æsculapius, of our art divine
High Priest, doth from his silent bed of clay,
His greetings send by this weak tongue of mine,
And bids you seek, where purple billows roll
With majesty to meet the shore's embrace,
Those secrets hid within its troubled soul
And pregnant with the welfare of our race.

For since the gods from high Olympus fled,
And Epidarus' temples ruined lie,
He dwells in silent chambers of the dead,
Nor looks upon the blue and arching sky.
But that great heart which throbbed for all mankind,
Doth silent yearn and hope for mortals good;
And his disciples o'er the earth would bind,
In one great universal brotherhood.

"Physician blameless," as blind Homer sang,
Fruit of Apollo's loins and fair Coronis' womb,
Thy fame that through the hollow centuries rang
Were poor excuse to 'wake thee from the tomb
And drag thee forth into the garish light,
That Science turns on fitful works of men;
How dense will be the darkness of thy night
When I shall leave thee to thy grave again.

Peace to thine ashes! While I turn to greet
These noble ones on whom thy mantle rests,
This brotherhood of good, whose tireless feet
And sturdy arms protect the naked breasts
Of frail humanity against the darts
Of Grim Disease; who in the crowded field
Would baffle all the virtue of their arts
But for thy daughter Hygea's golden shield.

Here 'mid such scenes as poets sang of old
You meet Past Masters by the sounding seas,
To weld fraternal links, stronger than gold,
In that long chain of which Hippocrates
And Galen, 'mid the lesser lights, shine bright,
Like stars along the heaven's milky way,
Changing the darkness of the centuries' night
Into the splendor of the present day.

Not 'neath Argolian skies, as oft of yore,
Where temples white her sacred groves begemmed;
But here beside the wavelet-wooing shore,
Where fair Health dons her brightest diadem,
And prints on careworn cheeks her rosy seal,
Her votaries lie, lulled by the summer breeze,
Tasting of joys that only gods could feel,
And dance like nymphs in far Hesperides,

Or glide like mermaids through the crystal waves,
Rocked for a moment in their giant arms,
While loving water amorously laves
The glowing beauties of unguarded charms;
'Till mad-cap breakers, with a rush and whirl
And flying spray, speed onward hand in hand,
To leave their burden, like a beauteous pearl,
Panting with pleasure on the shining sand.

Here, gazing o'er the ocean's broad expanse,
With heart attuned to Nature, thou shalt hear
The music of the spheres, as in a trance,
Which fell upon Apollo's listening ear.
Or see Aurora from her purple bed—
The fairest child of old Hyperion—
Throw back the rosy veil from off her head
To herald forth the coming of the sun.

And when brave Helios in flaming car
And fiery steeds speed up the azure skies,
The glory of the sun-god from afar
Is like the splendor-burst of Paradise;
And all around the spirits of the blest
Sweet converse hold, and then realized seem
The wondrous peace of Eden's perfect rest,
Of Dante's visions and of Milton's dreams.

And when the moon in the empyrean swings,
The shade of one Aurelius Celsus walks
And listens to the wavelet as it sings,
Or with the ghost of Ambroise Paré talks
Of Fame's sweet touch, as soft as kiss on brow,
By wooing winds of vineclad Abydos,
Of golden palms and laurel's greenest bough,
To bind a wreath for our immortal Gross.

Not he alone whose marble statue, reared
By reverent hands, thy loving eyes have seen,
Close by the towering shaft of one revered
By all the world, whose laurels, ever green,
The deepening dust of centuries can not dim,
But other names which Fame claims as her own,
Dear to our hearts who led or followed him,
With graves unmarked or decked with costly stone.

'Tis well that in the city of his fame,
Of Physick's home, of Pancoast's memory dear,
The sheltering shrine of Agnew's honored name,
And Leidy's works, you celebrate this year,
Whose glad bell peals upon the startled air
Proclaimed throughout the land, sweet liberty,
'Neath the peace-angel's spreading pinions fair,
That you should hold your golden jubilee.

'Tis meet that now, your arduous labors done,
You seek relief in ocean's breath benign;
And while from glass of life the sand doth run
Drink deep ambrosial draughts of air divine
On this fair shore where fortune gladly came
To dwell in love with Hospitality,
We bid you welcome in her sacred name,
To our Queen City by the whispering sea.

Here at your councils may Athene preside,
While Bacchus crowns with bays your festive board,
May Lares guard your absent fireside
'Till your dear ones shall welcome back their lord.
In that blest meeting of the loved apart,
Forget not those who by the boundless sea
Clasped hands and spake with you as heart to heart,
And wished you well through God's eternity.

SOCIETY NEWS.

Washington State Medical Examining Board.—The Governor has appointed the following new members of the State Examining Board: Dr. J. H. Hoxsey, Spangle; Dr. J. P. Turney, Davenport; Dr. E. Van Zandt, New Whatcom.

Oregon State Medical Society.—The twenty-fourth annual meeting of the Oregon State Medical Society was held in the parlor of the Imperial Hotel, at Portland, June 8 and 9. The attendance was quite large, delegates from both the California and Washington State societies being present. The interest and discussion elicited by the papers was much more pronounced than usual. The following papers were presented, viz.: "Optical Illusions," Dr. R. Nunn, Portland; "Tuberculous Osteomyelitis and Bone Abscess," Dr. F. M. Robinson, Beaverton; "Are Women Doctored Too Much?" Dr. J. A. Fulton, Astoria; "Radical Cure of Hernia, with Report of Sixteen Cases," Dr. W. H. Saylor, Portland; "New Mexico as a Health Resort for Consumptives," Dr. F. Cauthorn, Portland; "Why Female Diseases," Dr. C. H. Hall, Salem; "Perforating Intestinal Ulcer of Typhoid Fever, with Report of a Case. Operation. Recovery." Dr. A. C. Panton, Portland; "Peculiar Forms of Enteric Fever," Dr. J. A. Giesendorfer, Arlington; "Sanitary Plumbing," Dr. Mae H. Cardwell," Portland; "Chemical Analysis of the Urine and its Diagnostic Value," Dr. L. Victoria Hampton, Portland; "Asexualization of Criminals" Dr. T. C. Humphrey, Portland; "Inflammations of the Middle Ear, and their Relation to Nose and Throat Diseases," Dr. J. F. Dickson; Portland; "Bromin-Iodin Injections in Tuberculosis," Dr. W. H. Saylor, Portland; "Deflections of the Nasal Septum," Dr. Edward N. Wilson, Portland; "The Complexion," Dr. W. E. Maxwell, Portland; "Chorea," Dr. Henry W. Coe," Portland; "Differentiation between Epilepsy and Reflex Epileptiform Attacks," Dr. S. E. Joseph, Portland; "Treatment of Gonorrhea in Women," Dr. William F. Amos, Portland; "The Utility of Roentgen Rays in Detecting and Locating Metallic Particles in the Eye," Dr. A. B. Kibbe, Seattle; "Address of Retiring President," Dr. Andrew C. Smith, Portland.

The officers elected for next year were as follows, viz.: President, Dr. Wm. Jones, Portland; vice-president, Dr. C. H. Hall, Salem; secretary, Dr. W. F. Amos, Portland; treasurer, Dr. Mae H. Cardwell, Portland. The next annual meeting will be held at Portland in June 1898.

Twelfth International Medical Congress.—The Committee of Organization of the Congress has received from the Ministry 7,000 free tickets of first-class transportation, which have been placed at the disposal of the Congress for their trip to Moscow going and returning. These tickets have been issued to the Committee of Organization by the Russian Ministry under the following conditions:

1. The Committee of Organization in sending each ticket to the member of the Congress for whom it is destined, will inscribe his name and the station from where he will leave, and for foreign visitors, the first Russian station on the frontier, also the route by which they will go to Moscow and return.

2. Independently of this the Committee of Organization will furnish the members of the Congress with a certificate indicating that the bearer is a member of the Congress. This certificate should be presented to the conductor of the train on demand.

3. These tickets will only be available for the return trip from Moscow when bearing the stamp indicating that the bearer has taken part in the International Congress.

4. The names of the members of the Congress will be inscribed according to the opinion of the Committee of Organization, not only in Russian but in foreign languages.

5. The tickets of going to Moscow should be presented at the station of departure, or the first Russian station on the frontier, and there application should be made to have the tickets stamped. On return these tickets will be presented at the depot in Moscow, where they will be stamped with the date of departure.

6. The return tickets are good up to the 1st (13th) of September of the present year.

7. Bearers of these tickets will have the right to free transportation of baggage to the amount of 16 kilogrammes.

8. As soon as the Committee of Organization will have given notice of the time and number of members crossing the frontier stations, the railway companies will make arrangements to permit them to get most conveniently, comfortably and promptly to Moscow, and they will take the same measures on their return from that city.

9. In conformity with these conditions, in order to have a free ticket, each member of the Congress should inform the Secretary General of the route by which he will go and return.

10. The Executive Committee have the honor also to give notice that ladies and other persons, who have no scientific title, accompanying the members of the Congress, under rule 3, can not be inscribed as taking part, nor pay any admission fee, nor can they receive gratuitous tickets on the Russian railroad lines.

BOOK NOTICES.

A New Classification of the Motor Anomalies of the Eye, based upon physiological principles, together with their symptoms, diagnosis and treatment. By ALEXANDER DUANE, M.D., Assistant Surgeon of Ophthalmic and Aural Institute, New York. J. H. Vail & Co. 1897.

This excellent little book consists of two parts; the first part reviews the normal movements of the eye, and the tests employed in their examination. The second part introduces the author's new classification of the muscular disorders and gives a very clear and comprehensive description of each of the six groups into which the motor anomalies are classified. Instead of subdividing these anomalies simply according to the deviations presented (which has been the usual plan adopted by writers heretofore) the author proposes the following classification; Disorders of individual muscles. 2. Disorders of associated parallel movements. 3. Disorders of convergence. 4. Disorders of divergence. 5. Disorders of sursumvergence. 6. Disorders of the rotation (or swivel) movements.

These divisions form groups, distinct in nature and symptoms, and frequently requiring widely different methods of treatment and readily distinguishable in practice by the signs they afford. The new classification therefore furnishes a good working basis for the diagnosis and management of motor anomalies; and we recommend the careful and repeated perusal of this brochure to every one who wishes to study and understand thoroughly this very interesting and important, but also very perplexing subject.

A Handbook of Medical Climatology, Embodying its Principles and Therapeutic Application, with Scientific Data of the Chief Health Resorts of the World. By S. EDWIN SOLLY, M D., M.R.C.S., late President of the American Climatological Association. In one octavo volume of 470 pages, with engravings and colored plates. Cloth, $4. Lea Brothers & Co., Publishers, Philadelphia and New York, 1897.

This work is intended to be a systematic treatise on Medical Climatology and essays to report the climates of the world. It is a subject which has engaged the author's attention for nearly thirty years.

Those who have the pleasure of personal acquaintance with the author will not fail to recognize in this work evidence of his fairness and cool judgment and in his description of various

climates and in the rules of climatotherapy there is not the slightest bias or variation from what he conceives to be the truth of the case. The book is divided into three sections. Section 1 having five chapters devoted respectively to the principles of Medical Climatology, Physiology, Ethology, Geographical distribution of diseases, and Classification of Climates.

Section 2 has an introduction and four chapters, viz., Phthisis, Forms of phthisis as influenced by climate, result of the treatment of phthisis by change of climate, forms of disease other than phthisis as influenced by climate.

Section 3 has an introduction and ten chapters, viz., North America, Eastern Climate, Southern Climate, Rocky Mountain Climate, Pacific Slope Region, Mexico, South America, Europe, Africa, Asia, Australasia and Island Climates.

There are various charts and relief maps explanatory of the text and altogether it is safe to say that Solly's Medical Climatology will be accepted as a fair and authoritative presentation of the existing knowledge of the subject for some time to come. The author has not attempted under the head of Climatology to prescribe special climate for particular diseases but has endeavored to lay down the broad principles of the subject leaving to the practitioner the duty of forming his own opinion in individual cases.

With some verbal changes the work will answer very well for class recitations. As a work of reference it will be valuable to every practitioner.

Lippincott's Medical Dictionary. A complete vocabulary of the terms used in Medicine and the allied Sciences, with their Pronunciation, Etymology and Signification, etc. By RYLAND W. GREENE, A.B., assisted by John Ashhurst, Jr., M.D., LL.D., George A. Piersol, M.D., and Joseph P. Remington, Ph.M., F.C.S. Philadelphia: J. B. Lippincott & Company. 1897. 8vo, cl., pp. 1154.

This dictionary in its general plan is based on the dictionary of Dr. Thomas. In spelling both old and new forms are used, but in the pronunciation the English method has been given precedence. At the same time it is admitted in the preface that the Roman pronunciation is increasing in use. A number of new words have been introduced and will be found very useful. While we object *in toto* to the English pronunciation of Latin words, we must concede that with the exception of pronunciation, there is little to criticise and much to commend.

By reason of changes in medical science, in order to keep pace therewith one must have the latest dictionary, and we can not have too many of them. The alleged phonetic system of pronunciation, of which this book is an exponent, presents a queer appearance at times, and in many instances one would need a translation of the phonetics; for example, the word "saline" has for its phonetic se-lain′ or se′lain, and Samuel —which most people know how to pronounce in their mother tongue, looks rather unfamiliar in the phonetic, Sam′iu-el. Obtusion must according to this dictionary be pronounced "ob tiu′zhon," and the plain word "puke" is pronounced "piûc."

We do not speak of this for the purpose of criticising unkindly those who believe that correct English pronunciation has been entirely lost by those living in the present century, but it certainly is very far from the tendency of the day to use needless letters anywhere, much less by way of making an explanation which does not explain. In other respects the dictionary is an excellent one.

A Compendium of Practical Medicine for the Use of Students and Practitioners of Medicine. By WILLIS WEBSTER GRUBE, A.M., M.D. Toledo, Ohio: The Hadley Publishing Co. 1897. 8vo, calf, pp. 664.

This is a catalogue of diseases arranged alphabetically, each accompanied by a short description; some of them give causes and all have a treatment. At the end of the work there is a clinical index which is really a therapeutic index. The book is printed in large clear type, and is handsomely bound and on heavy paper. The old system of dosage has been used. The work is elementary and will no doubt be useful to medical students. But we question whether or not such books as this should be implicitly relied on even by students. For instance, page 38, the author says: "Pus when thick and clear is known as healthy or laudable pus or living pus; when thin and watery, puriform or dead pus; when blood-stained, sanious gummy pus and contagious pus in smallpox, gonorrhea and venereal ulcers." On reading such a paragraph one is apt to rub his eyes and reëxamine the title page of the book to see if it is really printed near the close of the nineteenth century.

It must not be inferred that this book is a systematized treatise on medicine; it is in effect a dictionary of certain terms and concerning which the author has given more or less description according to his opinion of their relative importance. Viewed from this standpoint, much of the criticism that it would otherwise obtain falls to the ground.

Exactly why a fee bill has been placed at the end of the work, or whose fee bill it is, it would be difficult to state, as there is nothing in the book about it.

Transactions of the New York State Medical Association. Volume xiii. Edited by E. D. FERGUSON, M.D. Pp. 624. New York: Published by the Association, 1897.

This very welcome addition to our medical literature still maintains the standard erected at the start. Careful research, original views and lucid statement are prominent features of the contributions. Among the writers are the well known names of Drs. J. W. S. Gouley, Joseph D. Bryant, T. D. Crothers, J. E. Janvrin, John Shrady, J. Lewis Smith, George T. Harrison, Nathan G. Bozeman, H. O. Marcy of Boston, and the editor himself. The addresses of Dr. Darwin Colvin, the retiring President, and Dr. Charles Phelps, President-elect, are thoughtful, chaste and suggestive. Dr. Reginald H. Sayre on "Roentgen's Discovery as Applied to Surgery," gives a masterly résumé of its present status, while the participants in the discussion of prostatic enlargement, all of whom deserve more than the usual meed of praise, certainly a passing note. These were, besides Dr. Gouley, Drs. Samuel Alexander, W. G. Bronson and Douglas Ayers. Drs. John G. Truax, Thomas H. Manley, T. M. Ludlow Chrystie, Nelson L. North, F. H. Wiggin, E. B. Dench, Frank S. Milbury, Sidney Yankaver, Robert Aberdein, William M. Bemus, Alvin A. Hubbell, T. J. Acker, Florince O'Donohue, Z. J. Lusk, Samuel E. Milliken, E. H. Squibb and Irving D. LeRoy have also ably fulfilled the duties entrusted to them.

The Semi-Centennial of Anesthesia, Oct. 16, 1846–Oct. 16, 1896. Boston, Mass., General Hospital, 1897.

We have already adverted to the Semi-Centennial of Anesthesia as celebrated by the Massachusetts General Hospital in Boston in October last (See JOURNAL, Vol. xxvii, p. 768), and we now have a handsome book, printed on Japan paper, exquisitely finished, having for its frontispiece a picture of the old Hospital and immediately following the title a reduced copy of the invitation to attend the exercises and a reproduction of all papers read on that occasion, which were as follows:

1. Address of welcome by Charles H. Dalton, President of the Massachusetts General Hospital.
2. Reminiscences of 1846 by Robert T. Davis, M.D., Fall River.
3. Surgery before the days of anesthesia, by John Ashhurst, M.D., LL.D., of Philadelphia.
4. What has anesthesia done for surgery, by David W. Cheever, M.D., LL.D., of Boston.
5. Relation of anesthesia and obstetrics, by John P. Reynolds of Boston.
6. The influence of anesthesia upon medical science by W. H. Welch, M.D., LL.D., of Baltimore.
7. Surgery of the future by Charles McBurney, M.D., of New York.

8. The birth and death of pain, a poem, by S. Weir Mitchell, M.D., LL.D., of Philadelphia.

The portraits of Dr. J. C. Warren and William T. G. Morton are inserted, and as well an engraving showing the first public demonstration of surgical anesthesia, which occurred Oct. 16, 1846, and in which the portraits of those present are seen grouped about the patient (George Abbott), who is lying on the table at the period where Morton has completed the anesthesia and the patient is just ready for the knife of Dr. Warren. The figures present are those of Drs. H. J. Bigelow, A. A. Gould, J. C. Warren, J. Mason Warren, W. T. G. Morton, Samuel Parkman, George Hayward and S. D. Townsend. Of these, J. C. Warren was at the time professor of surgery in the Medical Department of Harvard University; J. Mason Warren and H. J. Bigelow afterward became such. Dr. Parkman was murdered by Webster; Dr. George Hayward was at the time the chief surgeon of the Massachusetts General Hospital; Dr. Townsend was then surgeon of the Marine Hospital at Chelsea, having succeeded his father, Dr. David Townsend, in that capacity.

As a souvenir of one of the most interesting events of modern medical history, the book will find a welcome in the library of every progressive surgeon who is fortunate enough to obtain it.

NECROLOGY.

WILLIAM THOMPSON LUSK, M.D., born May 23, 1838, in Norwich, Conn., died of cerebral apoplexy at his residence in New York city, June 12. Having entered Yale College in 1859 he left it after his freshman year to enlist in the Union army but in 1872 he received his honorary degree of A.M. from this institution and in 1893 that of LL.D. During the war he rose from the humble rank of private to that of Captain of the 79th Infantry N. Y. Volunteers, otherwise "the Highlanders" from which regiment he was mustered out Feb. 28, 1863. He was graduated from the Bellevue Hospital Medical College in 1864 and afterward pursued his studies in Heidelberg, Berlin, Edinburgh, Paris, Vienna and Prague. Dr. Lusk won his reputation from many pursuits, having been contributor and medical editor, lecturer and professor in the Long Island Hospital Medical College, the Harvard Medical School and the Bellevue Hospital Medical College, a visiting and consulting physician of many hospitals and an active member of several scientific bodies. His most enduring distinction in all likelihood is his treatise on "The Science and Art of Midwifery" (1880), which has been made familiar abroad in several languages. He leaves three daughters and two sons.

FREDERICK J. MCNULTY, M.D., Georgetown Medical College 1860, died in Boston, Mass., June 14, at which date he was Superintendent of the Austin Farm Insane Asylum. He was born in Richmond, Va., in 1835 and was an officer with a record of a service under four flags, to-wit, the United States, the Confederate, the Chilian and the Cuban. Recovered from wounds in battle, with a diplomatic training and an experience in Ludlow Street jail under bonds not to enter the Cuban army he finally settled in Worcester, Mass., and in 1879 removed to Boston. He was a member of Camp Lee, Confederate Veterans of Richmond and the Massachusetts Medical Society.

HENRY LOEWENSTEIN, M.D. University Giessen, Germany, 1857, for many years a police surgeon, died at his home in Brooklyn, N. Y., June 10, aged 59 years.

SAMUEL S. TROTH, M.D., Jefferson, Philadelphia, 1849, died in that city June 11. He was long a member of the Pennsylvania Medical Society.

GEORGE KERR EDWARDS, M.D., son of a regular army surgeon, a Princeton graduate of class 1889, and an alumnus of the University of Pennsylvania, died in Princeton, N. J., June 14. After attaining his medical degree he spent a year in hospital work in Philadelphia and subsequently in the Johns Hopkins Hospital. After nine months devotion to duty in the latter institution tuberculosis manifested itself, since when in his own words he kept "chasing health and hope." A sojourn in California was unavailing and in obedience to a sentiment of his own he was carried to die in his old college room not long after a speech made at a class reunion. His last residence was Newcastle, Delaware.

JOHN P. ATWATER, M.D., last surviving member of the class of 1834 at Yale College, died at his home in Poughkeepsie, on May 23. He was born in 1813 at Carlisle, Pa., where his father, the Rev. Jeremiah Atwater, after completing his professional studies, settled. In 1870 he removed to Poughkeepsie.

JOEL WASHINGTON SMITH, M.D., Charles City, Iowa, June 6, aged 72 years. Dr. Smith was a member of the AMERICAN MEDICAL ASSOCIATION, Iowa State Medical Society, Cedar Valley, and Wapsia Valley Medical Societies; International Medical Congress, Philadelphia 1876, and Washington 1887; American Public Health Association, American Association for the Advancemant of Science, etc.

ALONZO D. TAGERT, M. D., June 16, aged 53 years; graduated in 1864 from Medical Department of the University of Vermont. He practiced in his native State until 1884, when he settled in Chicago and remained up to the time of his death. ——Wm. Allison Todd, M.D., Chariton, Iowa, March 24, at one time president of the Iowa State Medical Society.——Isaac Van Tyle Goltra, M.D., Springfield, Ill., June 12, aged 77 years. ——R. J. Goodman M.D., Sparks, Ga., June 16.——Victor S. Jourdon, M.D., St. Louis, June 13, aged 80 years.——Samuel M. Martin, M.D., Greenfield, Ind., June 14, aged 55 years.—— M. M. Powell, M.D., Collinsville, Ill., June 19.——Nicholas Schenkel, M.D., Allegheny, Pa., June 9, aged 40 years.——Asa F. Pattee, M.D., (instead of Asa F. Potter, JOURNAL, p. 1202).

PUBLIC HEALTH.

The Scarlet Fever Epidemic in Plainfield, N. J.—The health authorities, aided by the city physicians, are investigating the sources of the epidemic, which seems to have been of a mild form and found to exist among all classes of the people. No favors have been shown in the general quarantine, and as a consequence the epidemic has so far abated as to allow a few days opening of the schools previous to the summer vacation.

Draining New Jersey Marshes.—The reclamation of the Passaic and Hackensack meadows is under discussion. The two are about eighteen miles long, extending from Elizabeth to Hackensack, and their width averages four miles. The surface is in general five feet above low water level and a trifle above high tide. The soil is either blue clay or peat, the depth of the former ranging for the most part from ten to fifteen feet and the depth of the latter being generally less than eight feet. Mr. C. C. Vermeule of the State Geological Survey in his report discusses the relative cost of plans, and averages the price at about $47 an acre. The accruing advantages to commerce, manufacturing and agriculture would more than counterbalance the estimated outlay of $1,268,400. The health and welfare of the whole meadow district and contiguous territory, it is suggested, can best be promoted by a single public authority planning to improve navigation and drain by the same work. The newspapers in their comments can not forego the tempting allusions to offensive odors, omnipresent malaria and "Jersey mosquitoes," but vote the proposition of redemption as feasible.

A Yellow Fever Menace.—A San Francisco telegram to the *N. Y. Herald*, dated June 13, reports the arrival of the *City of Para* flying the yellow flag. When one day out from Panama, a lady passenger died from yellow fever, and a few days thereafter the captain also succumbed. None of the twenty passengers showed symptoms of the disease, but a quarantine was very properly ordered. Health officer Dr. Doty maintains that a fever epidemic in New York is out of question and that the present menace, if such it may be called, began on the

Pacific side of the Isthmus of Panama; the cases originated in two sailors who deserted a ship from Peru. On the Atlantic side of the Isthmus, where the *Advance* shipped her cargo of fruit, there is no yellow fever. (JOURNAL, p. 1202). The steamer *Vigilancia*, with eleven second-cabin passengers, arrived at New York June 14 from Havana. These were sent to Hoffman Island for observation. Owing to the sudden death of a Chinese passenger on board the *Vigilancia*, and the lack of a satisfactory history of the case, Health Officer Doty decided to detain the steamer for disinfection. In the case of ships from Cuba, "white certificates" are used as permits to land in New York. The only class on board ship requiring surveillance are white passengers who may have contracted the disease ashore. The crew and natives are practically immune. Others without certificates are detained for a day and a half away from their surroundings and thereby they complete the period of incubation, which is five days, the voyage from Cuba being three days. In this way commerce, the local god, is propitiated.

MISCELLANY.

Determination of the Xanthin Bases in the Urine.—It is announced in the *Deutsche Med. Woch.* of June 3 that the universally adopted Krüger-Wulff method is not reliable. Comparative tables are given which show that the results attained with it are seven times too high in some cases, while this exaggeration is too variable to be accepted as a mathematical factor in computing the results.

Prof. Axel Key of Stockholm has been honored by his friends with a "Fest Band" on the occasion of the completion of his thirty-fifth year as professor of pathologic anatomy at the Karolinska Med. Kir. Institute. It forms two bulky volumes bound uniform with the *Nord. Med. Arkiv* of which he is editor, price 16 kronor. It contains thirty-seven able articles on important subjects, finely illustrated.

Moscow International Congress.—The Committee on Accommodations report 3,000 rooms at the disposal of the members of the Congress, ranging in price from 3 to 10 francs a day, which includes breakfast. A special committee has been appointed to attend to the entertaining of the ladies accompanying members, to render their stay in Moscow agreeable.—*Therap. Woch.*, May 30.

Floating Kidney in Children.—Comby asserts that the accepted causes of floating kidney must be erroneous in many cases, as he has found it occur quite frequently in children since he began looking for it recently. This shows that the condition in adults may date from the earliest years and may be congenital. The *Bull. Soc. Méd. des Hop.*, May 27, contains his observations of six cases, ranging from infants to girls of 14, and he urges others to coöperate in obtaining further information in regard to this condition in children.

Capacity of the Human Stomach.—There were removed from the stomach of Harry Whallen, "the human ostrich," who underwent an operation June 12 at the German Hospital, Kansas City, Mo., two pocket knives, three knife blades, three ounces of fine glass, and tacks, nails, screws and staples to the number of seventy. He died a martyr to his latest miracle not quite two days thereafter.

The Statue to Charcot.—Germane to the thought expressed by Governor Hastings at the last convention, we find that the French people are not omitting their artistic duties toward those who work for preventive medicine. The New York *Herald* says that the sculptor Falguière is putting the finishing touches to a magnificent statue of Dr. Charcot, which will be placed at the Salpêtrière. The Pasteur monument fund has reached the sum of $60,000, nearly. At the request of Paul Dubois, who was first asked to execute the monument, the work has been intrusted to Falguière.

Explanation of the Variations in the Intracellular Secretion of Bile in the Liver.—Professor Browicz announces that he has established a fact that explains his former announcement of the peculiar differences in the chemic constitution of the bile secreted at one time by a liver cell in certain abnormal conditions. He finds that there is a connecting system of delicate intranuclear and intraprotoplasmic passages in the chromatin of the nucleus of the hepatic cells, connecting closely with the intercellular biliary passages. This discovery shows that the biliary passages commence in the nucleus, and also explains the pathologic vacuolization in certain pathologic conditions. —*Deutsche Med. Woch.*, June 3.

The NewYork Medical League puts the Brake on More Dispensaries.—We glean from the press of New York that the New York Medical League has commenced active operations in the matter of medical charities abuses. On April 19, a committee of the League appeared before the New York State Board of Medical Charities in opposition to the application for a charter for the St. Bartholomew Dispensary, claiming that the institution of a new dispensary in a neighborhood already amply provided for by medical and surgical services, was unnecessary and tending to promote pauperism. The Board accepted the views of the League and refused the grant of charter. The Pasteur Institute also applied for a license to open another dispensary, and the League objecting, urged the refusal of recognition by the Board. Here, as in the preceding case, the League was sustained by the State Board of Charities and the charter was not granted. Let the good work go on.

Lesions of the Spinal Cord in Cases of Amputations of the Fingers.—The necropsy of a recent case has strikingly confirmed the modern assertion that the section of a nerve determines lesions at a distance, in the nerve's originating center. In this case, described and illustrated in the *Presse Méd.* of June 2, the lesions in the spinal cord corresponded in every particular and almost exclusively to the innervation of the parts amputated. An interesting feature of the case was that the amputation was congenital. The woman was 60 and a cancer was located in the cervix uteri.

Estate of Deceased Insane Person not Liable.—In Missouri the duty of supporting the indigent insane is devolved by statute upon the counties of which they are inhabitants. Section 5557, of the Revised Statutes of that State of 1889 provides that "in all cases of appropriations out of the county treasury for the support and maintenance of confinement of any insane person, the amount thereof may be recovered by the county from any person who, by law, is bound to provide for the support and maintenance of such person, if there be any of sufficient ability to pay the same." But because there is no express statutory provision therefor, the supreme court of Missouri holds, in Montgomery County v. Gupton, March 9, 1897, if a county has paid for the support of an insane person at the State Lunatic Asylum, it can not recover the amount from such person's estate after his death. There is no principle of statutory construction, it declares, that will warrant the assumption that, a legal liability being upon others, if they are able pecuniarily to pay for the patient's support, the law will imply a promise on the part of the patient to pay for it himself, if able pecuniarily. At common law, it explains, it is well settled that the provision made by law for the support of the poor is a charitable provision, from which no implication of a promise to repay arises, and moneys so expended can not be recovered of the pauper in the absence of fraud, without a special contract for repayment.

Societies.

THE midsummer meeting of the Madison County Medical Society was held at Huntsville, Ala., June 15.——Seventy-five physicians and surgeons of the Santa Fé Hospital Association,

which is maintained by the A. T. & S. F. Ry., have organized as the Santa Fé Medical and Surgical Society. Dr. J. P. Castor, Topeka, Kan., was chosen president.——The Sioux Valley Medical Association met in annual convention at Rock Rapids, Iowa, June 15.——The South Dakota State Medical Association met at Mitchell, June 9.——The Kansas City District Medical Society held a meeting June 10.——The Manchester (N. H.) Medical Association held its first annual session June 11.——The annual meeting of the Delaware State Medical Society was held at Rehoboth, June 10.——The Franklin County (N. Y.) Medical Society held its session at Malone, June 8.——The Ontario Medical Association held its seventeenth annual meeting at Toronto recently.

Colleges.

INDEPENDENT MEDICAL COLLEGE THREATENED.—Attorney-General Akin of Illinois has been asked by the Board of Health of Milwaukee to have the charter of the Independent Medical College of Chicago revoked.——Harvey Medical College, Chicago, graduated nine new physicians June 15.——At the thirteenth annual commencement of the National University, Washington, D. C., June 10, ten received the degree of Doctor of Medicine.——The medical department of Hamline University, Minnesota, held its fourteenth annual commencement June 10.

Hospitals.

THE STATEN ISLAND HOSPITAL, "Greater New York," is to hold a "birthday party" on June 19. A little silk bag accompanies an invitation to the lawn, this article being for the reception of pennies indicating the contributor's age in years. Music and refreshments are the temptations.

MARY O'MALLEY, M.D., Niagara University, 1897, has been appointed on the resident staff of the Buffalo (N. Y.) Hospital of the Sisters of Charity.——Finley Hospital, Dubuque, Iowa, reports 120 patients for the year ending March, 1897. Of these sixty-four were surgical, forty-nine medical. Seventy-eight were cured, twelve improved and fourteen died.

Washington.

HEALTH OF THE DISTRICT.—From the report of the Health Officer for the week ended June 12, we find the mortality of the District continues below the average. The total number of deaths during the week was 82, while those of the previous week were 94, of which 48 were white and 36 colored; total death rate per thousand 15.2. Diseases of the nervous system caused 13 deaths, those of the circulatory organs 6, those from the kidneys 9. There were 3 deaths from diphtheria, 3 from whooping cough, 3 from acute lung diseases, 1 from typhoid fever. Of the 6 deaths by violence 3 were by suicide.

MEDICAL SOCIETY.—At the recent meetings of the Society the following papers have been presented: Dr. Nordhoff-Jung, "The Thure-Brandt System in Gynecology Practically Applied"; Dr. Forwood, "Fracture of the Skull, case and specimen"; Dr. Kleinschmidt, "Thoughts on Modern Physiology; Its Aim and Limits"; Dr. Lamb, "Ulcerative Endocarditis."

WASHINGTON OBSTETRICAL SOCIETY.—The Washington Obstetrical and Gynecological Society at its meeting June 18 adjourned until October next, when President Dr. J. B. Harrison will read the annual address.

BOARD OF MEDICAL EXAMINERS.—The Commissioners of the District have appointed Dr. John H. McLain to succeed himself as a member the Board of Medical Examiners.

NEW QUARANTINE STATION.—A quarantine station has been established at Alexandria, Va. Dr. Arthur Snowden, formerly of Washington, has been appointed officer in charge.

TO PROTECT THE MEDICAL LICENSING BILL.—The Commissioners of the District, on the advice of Health Officer Woodward, have reported adversely on Senate Bill 1134, to restore medical "freedom" to the District of Columbia. They append to their report a criticism by the health officer which clearly shows the wisdom of their adverse recommendation.

TRAINED NURSES FOR THE POOR.—A number of very prominent trained nurses in this city recently organized an association among themselves for the purpose of supplying first-class nurses to the poor and middle classes. The nurses, when off duty, propose to nurse the poor by daily or nightly visits for a nominal fee per visit. Where an operation is to be performed one or more will attend during the actual time of the operation for a fee of $3 to $5, during actual labor and delivery $5, and subsequent visits $1 for the first and 50 cents for subsequent visits. These reductions are to be made only on the certificate of the attending physician that the families are unable to pay the regular fees. The association will do a great deal of good to the poor classes by thus permitting them to have the services of nurses, whose high prices formerly barred them. The advantage to the physicians will be incalculable.

A FAITH CURE DOCTRESS IN TROUBLE.—Quite recently a patient ill with diphtheria died while under the care of a faith-cure doctress. The Health Department and Board of Medical Examiners assert that she thus violated the Medical Practice Act and have accordingly issued a warrant for her arrest, so charging her. Her personal bonds have been accepted, pending the trial before the police court. She claims not to practice medicine nor to have violated the Medical Practice Act, and alleges exercising a religion by prayer.

THE PUBLIC SERVICE.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from June 12 to June 18, 1897.

First Lieut. Charles Lynch, Asst. Surgeon, is granted leave of absence for one month, with permission to apply for an extension of one month, to take effect upon his relief from duty at Ft. Robinson, Neb.

First Lieut. Benjamin Brooke, Asst. Surgeon (Ft. Thomas, Ky.), is granted leave of absence for four months, on surgeon's certificate of disability.

Major William C. Shannon, Surgeon U. S. A. (Jackson Bks., La.), is granted leave of absence for one month, on surgeon's certificate of disability, with permission to apply for an extension of one month.

Capt. William F. Lippitt, Jr., Asst. Surgeon (Ft. Leavenworth, Kan.), is granted leave of absence for one month, to take effect about July 24, 1897.

CHANGE OF ADDRESS.

Barlow, Edwin B., from Urbana to 203 E. Bancroft Street, Toledo, Ohio; Barr, G. Walter, from Quincy, Ill., to Keokuk, Iowa.

Drake, G. W., from Chattanooga to Montiagle, Tenn.; Davidson, Frank S., from 528 Morse Avenue to Alexian Brothers Hospital, 559 to 569 N. Market Street, Chicago, Ill.

Fales, L. H., from Madison, Wis., to St. Luke's Hospital, Chicago, Ill.

Heddens, C. H., from 816 Congress Street to 138 Wells Street, Chicago, Ill.

Overton, T. V., from 344 Wood Street to 56 N. Ann Street, Chicago, Ill.

Scott, R. G., from Sandwich to Oswego, Ill.; Searle, C. H., from 39 Roslyn Pl., to 166 North Avenue, Chicago, Ill.

Warren, Wadsworth, from 32 Adams Avenue W. to 51 W. Fort Street, Detroit, Mich.; Wilkinson, A. D., from Room 28 to 24 and 25 Burr Block, Lincoln, Neb.

LETTERS RECEIVED.

American Sports Publishing Co., New York, N. Y.; Armstrong, James L., Hoboken, N. J.

Bausch & Lomb Optical Co., (2) Rochester, N. Y.; Barnes Medical College, St. Louis, Mo.

Columbus, The, Phaeton Co., Columbus, Ohio; Clarke. Augustus P., Cambridge, Mass.; Camac, C. N. B., Baltimore, Md.; Chambers, J. H. & Co., St. Louis, Mo.; Creighton Medical College, Omaha, Neb.

Duffield, Geo., Detroit, Mich.

Egan, J. A., Springfield, Ill.

Fairchild, Bros. & Foster, New York, N. Y; Fessenden Mfg. Co., The Pittsburg, Pa.; Furay, C. E., Chadron, Neb.; Flint, Austin, New York.

Graham, D. W., Chicago, Ill.; Gaston, J. McFadden, Atlanta, Ga.

Hummell, A. L., Advertising Agency, New York, N. Y.; Hare, H. A., Philadelphia, Pa.

Johns Hopkins Press, The, Baltimore, Md.

Loeb, H. W., St. Louis, Mo.; Lentz, Charles & Sons, Philadelphia, Pa.

Maloney, J. C. F., Shawnee, Kan.; Mulford, H. K. Co., Philadelphia, Pa.; MacCurdy, John, Youngstown, Ohio; May, W. L., Guion, Ala.; McFarland, Joseph, Philadelphia, Pa; Mathewson, E. H., Chicago, Ill.

Norris, J. A., Okeene, O. T.; New Table Co., St. Louis, Mich.; Nordhoff-Jung, Sofie A., Washington, D. C.; New York Pharmacal Association, Yonkers, N. Y.

Pilcher, James E., Columbus, Ohio; Parkinson, James H., Sacramento, Cal.; Paquin, Paul, St. Louis, Mo.; Page, Henry, Baltimore, Md.

Roussel, A. E., Philadelphia, Pa.; Reed & Carnrick, New York, N. Y.; Rosse, Irving C., Washington, D. C.; Ranney, George E., Lansing, Mich.; Reed, R. Harvey, Columbus, Ohio; Reinmund, B. F., Galesburg, Ill.

Scheppegrell, W., New Orleans, La.; Stevens, C. L., Athens, Pa.; Styer, D. W., Churchtown, Pa.; Saxlehner, Andreas, New York, N. Y.; Snively, I. N., Philadelphia, Pa.; Sebago Summer Resort, The, Sodus, Mich.

Trowbridge, L. S., Detroit, Mich.

University College of Medicine, Richmond, Va.

Webb, J. A., Providence, R. I.; Watkins, T. J., Chicago, Ill.; Wingate, U. O. B., Milwaukee, Wis.; Wilkinson, A. D., (2) Lincoln, Neb.